



# EVALUATION REPORT ON SOCIAL FORESTRY PROGRAMME



PROGRAMME EVALUATION ORGANISATION  
PLANNING COMMISSION  
GOVERNMENT OF INDIA  
NEW DELHI  
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## PREFACE

The importance of forest as preserver of eco-systems and supplier of wood, timber and other forest products is universally recognised. In India, out of 329 million hec. of total geographical 75 million hec., about 23 per cent, is under recorded forest area. According to the National Forest Policy, one-third of the total geographical area should be under forest cover. Even the existing forests have been greatly denuded and rendered poorer in quality over the last three decades due to encroachment and wanton exploitation of resources without natural regeneration. This has not only seriously affected ecological balance in the country but has also resulted in soil erosion, floods, droughts and heavy siltation in lakes and water reservoirs. The large scale denuding of forests has also created wide gaps between demand and supply of forest products, especially fuelwood, the most important fuel for rural and urban poor.

2. The existing forest being in no way capable of meeting the huge fuelwood deficit in the country, Social Forestry Programme was conceived as the most effective means of raising plantations of quick growing species on all available private and community wasteland outside the forest areas. This would also ensure environmental protection by improving the life support systems of land, water and vegetations. The scope and concept of Social Forestry were elaborated by the National Commission on Agriculture which also enunciated detailed guidelines for implementation of the Programme.

3. The strategy adopted in implementing Social Forestry Programme was to grow fuelwood as near as possible to the consumption points so that other major energy inputs were not required to transport it to the area of consumption. Accordingly, the Centrally Sponsored Scheme of Social Forestry including Rural Fuelwood Plantation Programme was launched during the Sixth Plan (1980-85) in 101 selected districts in the country having acute fuelwood shortage. Later on, the Programme was extended to another 56 districts to ensure a wider coverage. Raising of block plantations or community forestry on community land, degraded forests, wastelands and strip plantations alongside roads, rails and canals formed about 70 per cent of the total efforts under the Programme. Farm Forestry in the form of plantation in and around individual farms in the backyards of homestead etc. was another important component of the Programme comprising about 30 per cent of the total efforts. The Programme received further fillip with its inclusion in the New 20-Point Programme in 1982.

4. At the instance of the Advisory Board on Energy the Programme Evaluation Organisation (PEO) took up an evaluation of Social Forestry Programme in 16 States in the country during 1984-85. The objectives of the study were—

- (a) to study the process of implementation of the Programme including preparatory steps laid down and actually followed and the extension efforts to motivate the rural community to adopt the Programme,
- (b) to assess the organisation and administrative infrastructure for Programme implementation,
- (c) to study the area covered, species planted, system of distribution of produce, if any, to the rural poor, and
- (d) to study the economic and ecological impact on the local population, particularly the rural poor.

5. The sampling design and coverage of the study are given in Chapter II. Depending on the size of the studies and number of PEO field units in the State, one to three Forest Divisions per State were purposively selected on the basis of highest achievements in terms of seedling distributed during 1981-82 or 1982-83, so as to study at least some aspects of Programme implementation, including its impact in the areas where the Programme had made some progress. Since purposive sampling has been used for the selection of the forest divisions studied, the findings of the survey cannot be generalised as being representative of the general situation in the country. The survey, however, can be taken to reflect the individual situation prevailing in each of the 16 States covered.

6. The findings of the Evaluation study and the suggestions emanating out of the findings are set out in Chapter VII. However, the main findings of the study are listed below :

- (i) In half the selected Forest Divisions Social Forestry was implemented by regular Forest Department officials who were otherwise overburdened with normal regulatory functions of forest management. Only in a few cases, extra staff were sanctioned for implementing specific schemes. It was hardly possible for the regular departmental officials to implement Social Forestry in addition to their normal workload without additional staff support. No extension and motivation staff at the grass-root level were appointed in six States, whereas in other States such posts were filled up partially. The regular Forest Department set up at the grass-root level, on account of the very nature of their work, perhaps could not be regarded as an ideal agency to motivate farmers to Social Forestry. It was further observed that the Forest Department officials, by and large, did not prefer posting in Social Forestry Organisations.
- (ii) The size of some of the selected Nurseries, each of which covered a very wide area in terms of number of villages, was quite small. That such Nurseries reportedly met requirement of seedlings in full only reflected lack of adequate demand for seedlings from the farmers in the area. In a few States, the beneficiaries under Farm Forestry were, by and large, big farmers as far the selected Nurseries are concerned, whereas the Programme was primarily intended for small, marginal farmers and other weaker sections of the community.
- (iii) The implementation of Social Forestry at the grass-root level was greatly hamstrung by the absence of a strong and efficient organisations to motivate people. The Block agency played a minimal role in this regard in most of the States. The Programme was primarily implemented by the Forest Department/Social Forestry Organisations alone which had very little functional linkage and coordination with District Rural Development Agency (DRDA).
- (iv) The study revealed that raising of block plantations on village common land, which was one of the prime components of the Programme was attempted in only nine per cent of the selected villages, mainly through the efforts of the Forest Department. The local panchayats practically did not evince any interest, let alone taking initiative, in this regard.
- (v) A little over 50 per cent of the area brought under farm forestry were earlier used for raising agricultural crops. A tendency was discernible on the part of the selected beneficiaries to divert cropped area to more remunerative uses of raising Eucalyptus without any risk of damage inherent in the cultivation of agricultural crops. In ten States, 70 to 100 per cent of the selected beneficiaries planted Eucalyptus for its being commercially most suitable. However, the trees planted were yet to mature in most cases to start giving produce.
- (vi) The Forest Department played the principal role in spreading the knowledge of Social Forestry in as much as two-thirds of the selected beneficiaries learnt about the Programme through them.
- (vii) Since the trees planted under the Programme were only 2/3 years old, the ecological impact of the Programme which was one of the objectives of the study, could not be assessed.

7. In the light of the findings of the study certain action plans have been suggested in Chapter VII for the concerned Departments/Organisations.

8. The Project Director of the study was Shri A. K. Chakravorty, Dy. Adviser, who assumed charge of the study when its earlier Project Director, Shri S. B. Saharya, superannuated. Shri Chakravorty took the onerous task of analysis and interpretation of the large volume of the secondary and primary level data collected and the preparation of the draft report. He was ably assisted in this task by Shri S. S. Jain, Senior Research Officer, S/Shri Ghansham Singh & M.T. Farooqui, Senior Economic Investigators and other staff attached to the Division. Smt. Mridula



Krishna, formerly Jt. Adviser (PEO), provided valuable guidance and advice in the finalisation of study design and training of field staff. Stenographical assistance was provided by Shri K. K. Arya. The Computer Services Division of the Planning Commission lent their cooperation and support in the processing of primary data. The final version of the report was prepared under my overall guidance and supervision. The help and assistance received from the Central and State Government Organisations in collecting the background and other information is gratefully acknowledged.

9. The report is presented in the expectation that the findings of the study and the suggestions flowing out of such findings would be of special interest to the concerned departments/organisations and received due consideration in bringing about necessary modifications in the Programme contents.

28th August, 1987

NEW DELHI.

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K. C. SEAL  
Adviser, Statistics & Evaluation





सत्यमेव जयते

## LIST OF ABBREVIATIONS USED

1. Social Forestry . . . . . (SF)
2. Farm Forestry . . . . . (FF)
3. United Nations Economic and Social Commission for Asia and the Pacific. . . . . (ESCAP)
4. National Council of Applied Economic Research . . . . . (NCAER)
5. Rural Fuelwood Plantation Programme . . . . . (RFPW)
6. Minimum Needs Programme . . . . . (MNP)
7. National Rural Employment Programme . . . . . (NREP)
8. Drought Prone Area Programme . . . . . (DPAP)
9. District Rural Development Agency . . . . . (DRDA)
10. Rural Labour Employment Guarantee Programme . . . . . (RLEGP)
11. United States Agency for International Development . . . . . (USAID)
12. Swedish International Development Agency . . . . . (SIDA)
13. Canadian International Development Agency . . . . . (CIDA)
14. Public Works Department . . . . . (PWD)



## CHAPTER I

### INTRODUCTION

The Programme Evaluation Organisation (P.E.O.), at the instance of the Advisory Board on Energy, conducted in 1984-85 an All-India Study of Social Forestry Programme. A Technical Advisory Committee was formed under the Chairmanship of Prof. A. M. Khusro, the then Member, Planning Commission, to provide guidance to the PEO in finalising the scope, objectives and design of the study. The composition of the Technical Advisory Committee is given at Annex 1.1 to this Chapter. Before describing the objectives, scope and design of the study, it would be helpful to give a brief sketch of the background against which the Social Forestry Programme was conceived in the country, and some important strategies of the Programme.

1.2 Out of 329 million hectares of the total geographical area in the country, 75 m. hect. (22 per cent) is under forest cover with per capita forest area of around 0.11 hectare. The National Forest Policy (1952) recommended that an optimum of 60 per cent in the hills and 20 per cent in the plains and in all one-third of the total geographical area should be under forest cover. Thus, against an expected 108 m. hect. under forest cover we have a shortfall of about 33 m. hect. Even the existing forest area was substantially denuded over the last three decades due to population pressure, improper land use and mindless exploitation of forest resources without natural regeneration. A recent study by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) described the destruction of tropical forests in South East Asia and India with "Incalculable consequences" for the ecological balance of our planet as one of the greatest tragedies of our time.

1.3 According to the estimates made by the National Remote Sensing Agency, as indicated in the table at Annex 1.2 to this Chapter, the aggregate forest area in the country shrunk by 16.4 per cent from 55 to 46 m. hect. between the mapping cycle 1972-75 and 1980-82, due to large-scale deforestation. Statewise percentages of decrease/increase in forest area over the same period are given in the Graph on next page.

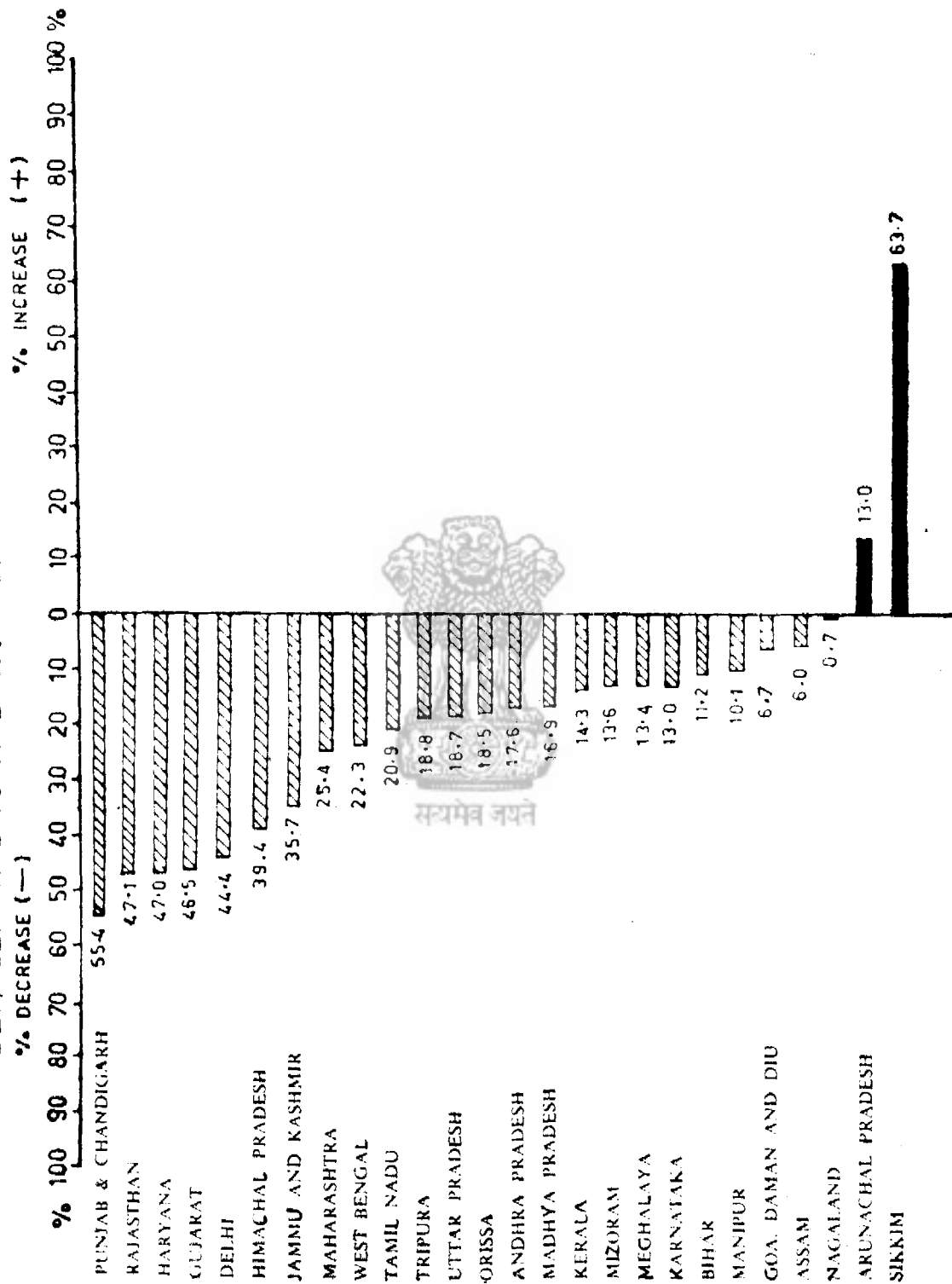
1.4 The graph shows that except in Arunachal Pradesh and Sikkim, wherein forest area had increased considerably, in all other States and UTs, forest area had substantially shrunk during the same period. The decrease was more than 40% in case of Punjab and Chandigarh, Rajasthan, Haryana, Gujarat and Delhi each. In terms of total area Madhya Pradesh accounted for highest fall of 1.8 m. hect. in forest areas, followed by 1.0 m. hect. in Maharashtra, 0.9 m. hect., in Andhra Pradesh and Orissa each, and Jammu & Kashmir 0.8 m. hect. over the same period. The latest satellite survey shows that about 1.3 m. hect.

of forest land and a million hect. of good agricultural land is lost by degradation every year. There is no getting away from the fact that the problem of degradation of good forest and agricultural land turning into wasteland has reached alarming proportions. At this rate a large part of the country would degenerate into degraded wasteland by the turn of the century if no concerted efforts were made to undertake a large-scale plantation programme. According to a conservative estimate, out of 143 m. hect. under cultivation, 66 to 80 m. hect., and in forestry, out of 75 m. hect., 40 m. hect., mostly in close proximity to human habitations, are already degraded on account of large-scale denudation and continuing loss of top soil. Rajasthan has the largest share of degraded land, followed by Maharashtra and Madhya Pradesh.

1.5 This has not only seriously affected the ecological balance in the country but has also resulted in soil erosion, floods, droughts and heavy siltation in lakes and dams. Cherrapunji in the north-eastern region, recording a very high rainfall every year, bears eloquent testimony to what disaster indiscriminate felling of trees without natural replantation can cause. The area is fast becoming a desert as there is shortage of even adequate drinking water. Heavy rainfall without adequate tree cover causes top soil run-off at a faster rate, so much so that at places the top soil layer is too thin to sustain any vegetation.

1.6 The large scale denudation of forest area has created a wide gap between demand and supply of forest produce, especially fuelwood, the most important fuel for rural and urban poor. The problem of availability of fuelwood is more pronounced in India where two per cent of the world forest area has to sustain 15 per cent of the world population. According to the sub-group on Social Forestry for the Seventh Five-Year Plan 1985-90, 80 per cent of India's population depends on fuelwood as the most important source of traditional energy for domestic use. As the Working Group on Energy Policy, 1979, had observed, the share of non-commercial fuel in rural areas is 80 per cent of total energy consumption. The purchased part of the energy in rural areas is only 12.7 per cent in firewood, 5.1 per cent in cattle dung and 8.9 per cent in others. The above figures as well as the data collected in the twenty-eighth round of National Sample Survey and the recently published NCAER Study on fuel-use show that most of the fuelwood required in rural areas is either homegrown or collected from non-commercial sources viz., from firewood pickings, and therefore, do not form part of the monetised economy. It is mainly through the indiscreet firewood pickings from the forest area in close proximity to human habitations, almost 40 m. hect. out of total forest area of 75 m. hect., in the country has already turned into degraded wasteland.

# PERCENTAGE INCREASE / DECREASE IN FOREST AREA BETWEEN 1972-75 AND 1980-82.



1.7 According to the National Commission on Agriculture the domestic requirement of wood and timber in 1980 was assessed at 209 to 211 million m<sup>3</sup>-184 million m<sup>3</sup> as fuelwood and 25 to 27 million m<sup>3</sup> of industrial wood, while it is recognised that the recorded production is hardly ten per cent of the total requirement. The acute shortage of fuelwood in rural areas led to the indiscriminate use of cattle dung as fuel which otherwise would have been used as manure for restoring soil fertility and increasing productivity. According to the demand projections made by the Advisory Board on Energy, the present annual requirement of firewood to the tune of 120-130 million tonnes would increase to about 300-330 million tonnes in another 20 years around 2004-5 A.D. During the same period, demand for air-dry cattle dung cakes used as fuel will soar from the present level of annual requirement of 73 million tonnes which is more than the total fertiliser consumed every year in agricultural production, according to the estimate made by the Fuelwood Study Committee of the Planning Commission.

1.8 Against this background of huge fuelwood scarcity—the existing forests being in no way capable of meeting the fuelwood requirement and the ecological imperatives, the Social Forestry Programme was conceived as the most effective means of raising plantation on all available private and community wasteland outside the forests viz. along farm bunds, wastelands, strips along roads, rails and canals, compounds of industrial, educational and social institutions, private households etc., through active participation of the whole community. The Fuelwood Study Committee of the Planning Commission had estimated that to meet the demand for fuelwood it would be necessary to raise fuelwood plantation at the rate of 1.5 million hectares annually and to distribute 800 million seedlings per year to the public. The scope of the Social Forestry Programme according to the National Commission on Agriculture (1976), covered (a) farm forestry, (b) extension forestry, (c) reforestation in degraded forests and (d) recreation forestry.

1.9 Under the farm forestry, it was envisaged to organise a substantial programme of tree plantation on bunds and boundaries of the fields and the farms and on homestead lands to be taken up by the farmers themselves. As regards extension forestry, the National Commission on Agriculture had recommended (a) mixed forestry on wastelands, panchayat and village community lands, (b) raising shelter belts in dry and arid regions and (c) raising of plantation of quick growing species on lands alongside roads, canal banks and railwaylines. The strategy devised for reforestation in degraded forests was to integrate the selection of degraded forests for reforestation with the survey of wastelands for planning mixed forestry. The recreation forestry, besides improving the quality of life in the cities, would contribute both towards social development and education in environmental matters.

1.10 The main thrust of the forestry programme during the Sixth Plan period was to meet the three sets of objectives: (a) ecological security, (b) fuel, fodder and other domestic needs of the population and

(c) the needs of village, small and large-scale industries. Another important aspect that also received adequate attention was the possibility of creation of additional employment through forestry activities. It was estimated that during the Sixth Plan period primary and secondary sectors forestry activities would generate about 240 million mandays of employment every year. Keeping these objectives in view it was decided that the main thrust in the programme would be on promotion of a peoples' forestry programme.

1.11 The States were already implementing peoples' forestry programme under production forestry as a part of the State Plan Schemes. It was, therefore, considered necessary during the Sixth Five Year Plan to supplement the efforts of State Governments. Accordingly, the Centrally-Sponsored Schemes of Social Forestry including Rural Fuelwood Plantation Programme (RFP), was launched during the Sixth Plan period (1980-85) in 101 selected districts, having acute shortage of fuelwood on the basis of the reports received from the States. Funds were released during 1980-81 to carry out advance soil work. Detailed guidelines were issued to the States for working out their requirement and availability of fuelwood, fodder and small timber. At the beginning of the Sixth Five Year Plan some of the States experienced difficulty in identifying adequate area in the selected districts for implementation of the programme. The programme was, therefore, extended in 1982-83 to another 56 districts to ensure a wider coverage of area. Accordingly, 157 districts from various States and four Union Territories of Arunachal Pradesh, Mizoram, Delhi and Goa, Daman & Diu were finally selected for implementation of the Centrally-Sponsored Social Forestry Programme.

1.12 The cardinal objective of the Social Forestry Programme was to meet fuelwood, fodder and small timber requirements of the rural people. The strategy to be adopted in this regard would be to grow fuelwood as near as possible to the consumption points so that other energy inputs were not required to transport it to the area of consumption. This would, besides lessening pressure on the existing forests, be conducive to restoring the ecological balance in the form of conservation of soil and water, flood control through regulation of stream flow, prolonging the life of irrigation lakes and dams by reducing the rate of siltation, increasing productivity in agricultural lands through retention of moisture and moderation of climate. The programme would also increase the scope of rural employment by creating durable assets in the form of wood lots.

1.13 Raising of block plantation in the form of village wood lots, in community lands, degraded forests, wastelands, coastal areas, alongside roads, rails, canals, and other available lands, formed about 70 per cent of the total efforts under the Programme. Such plantations raised within the easy reach of the rural communities would greatly save wastage of human energy by mitigating hardship of women and children who have to traverse long distance daily in search of twigs, branches, other firewood and fodder. Raising of seedlings in the nurseries for free supply to farmers and children under the Programme "A

Tree For Every Child", for plantations in and around individual farms and in the backyards of homesteads etc. was another important component of the Programme which formed about 30 per cent of the total efforts. Children were to be encouraged to raise nurseries in school premises under the technical guidance of the forest staff which regard to preparation of sites, choice of species, planting and after care, through their extension organisations. The Forest Department would provide inputs free of cost. The seedlings raised would be purchased by the Forest Department and at the rate of 20 to 25 paise per seedling after deducting the cost of inputs. Kisan nurseries on the pattern of school nurseries to be raised by the poor farmers belonging to SC/ST and other weaker sections was another feature under the Programme. These nurseries were expected to meet the huge requirement of seedlings under the Programme within convenient reach of the rural communities.

1.14 The seedlings supplied to the farmers would be of such species as would provide fuel, small timber and fodder. Depending upon the suitability of sites, seedlings of commercial species like Eucalyptus, Poplar, Bamboo, etc. would also be supplied to the farmers. Children were to be given fruit trees species to imbibe in them interest in tree plantation through quick returns. The States were asked to plant atleast 20 per cent fruit trees under the Social Forestry Programme.

1.15 The States were given Central assistance under the scheme to the extent of 50 per cent, subject to a maximum of Rs. 1000/- per hect. for plantation and Rs. 250/- per 1000 seedlings. Central assistance to the Union Territories was 100 per cent. To ensure satisfactory implementation of the Programme, Central

assistance was also available for setting up a Monitoring and Evaluation Cell under the Programme or for strengthening the existing ones, subject to a maximum of Rs. 50,000 per annum per State. For the Union Territories the central assistance was 100 per cent but the unit should be smaller. The States and the UTs would work out the details of the staff to be appointed for Monitoring and Evaluation according to the norms prescribed.

1.16 The Sixth Five Year Plan targetted raising of fuelwood plantation over 2.60 lakh hec. and supply of 580 million seedlings to the farmers and children under "A Tree for Every Child Programme". The outlay under the Social Forestry Programme was 97.21 crores out of which central grant was Rs. 50 crores. The achievements under the programme during the Sixth Five Year Plan were 3 lakh hec. of plantation and distribution of 740 million seedlings. The Social Forestry Programme took a great stride, especially from 1982-83 onwards, when afforestation was included in the New 20 Point Programme.

1.17 The Externally Aided Social Forestry Projects were commissioned under State Sector Programme in eleven States viz., Andhra Pradesh, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Orissa, Uttar Pradesh and West Bengal at the time of the launching of the Evaluation study. These eleven Foreign-aided Social Forestry Projects were implemented with a view to raising community forestry over 9.4 lakh hect. and strip plantations over 6075 kms. These projects also envisaged supply of 56.92 crores seedlings to the farmers. The details regarding years of operation, total cost and financial assistance under these Programmes are as follows :

Financial Agency	States	Year of the Project	Estimated Cost \$M	Estimated Foreign Assistance \$M
1	2	3	4	5
I. WORLD BANK	Uttar Pradesh	1979-84	40	23
	Gujarat	1980-85	67	37
	West Bengal	1981-87	24	29
	Jammu & Kashmir	1982-87	28	13
	Haryana	1982-87	33	20
	Karnataka	1983-88	552	27
			(Million Rs.)	
II. U. S. AID	Madhya Pradesh	1981-82	40	25
	Maharashtra	1982-87	56	30
III. SIDA (Sweden)	Tamil Nadu	1981-86	47	33
	Orissa	1983-88	23	18
IV. CIDA (Canada)	Andhra Pradesh	1983-88	400	44
			(Million Rs.)	

As per the Ministry's progress report, till 1983-84, 2.76 lakh hect. of community plantations were raised and about 80 crores seedlings distributed.

#### 1.18 Strategy laid down in the Seventh Five Year Plan

The Evaluation Study of Social Forestry covered four years from 1980-81, when the Programme was

initiated, to 1983-84. However, in view of the importance of the Programme it would not be out of place to give a brief account of the strategy laid down in the Seventh Five Year Plan 1985-90 for a country-wide afforestation and Social Forestry Programme. The Central Sector Programme of Social Forestry would cover all fuelwood deficit areas during the

Seventh Plan period. Suitable indigenous species with fast growth rate and capable of bringing environmental improvement including improvement in Soil & moisture regime should be identified for the specific climatic and edaphic conditions. Nurseries should be set up in a decentralised manner with involvement of the people in school nurseries, kisan nurseries and

nurseries run on a cooperative basis. The Seventh Plan also provided for enrolling suitable management model in agreement with panchayats, local bodies and individuals for fair sharing of benefits amongst the villagers. Use of mass media should be made to raise peoples' awareness of the Programme so as to ensure their active participation.





**List of Members of the Technical Advisory  
Committee for Evaluation Study of the Social  
Forestry Programme**

Annex 1.1

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| <p>1. Prof. A. M. Khusro—Chairman<br/>Member, Planning Commission,<br/>New Delhi.</p> <p>2. Shri G. P. Kapur,<br/>Adviser (Evaluation),<br/>Planning Commission,<br/>New Delhi.</p> <p>3. Dr. S. P. Gupta,<br/>Adviser (PPD &amp; PEO),<br/>Planning Commission,<br/>New Delhi.</p> <p>4. Dr. K. Kanungo,<br/>Adviser (Agriculture),<br/>Planning Commission,<br/>New Delhi.</p> <p>5. Shri D. Bandopadhyay,<br/>Adviser (Rural Development),<br/>Planning Commission,<br/>New Delhi.</p> <p>6. Shri S. P. Mukherji,<br/>Secretary,<br/>Ministry of Agriculture,<br/>New Delhi.</p> <p>7. Shri V. B. Eswaran,<br/>Member Secretary,<br/>Energy Board,<br/>Sardar Patel Bhavan,<br/>New Delhi.</p> <p>8. Dr. T. N. Khoshoo,<br/>Secretary,<br/>Department of Environment,<br/>Bikaner House,<br/>Shahjahan Road,<br/>New Delhi.</p> <p>9. Shri L.H.A. Rege,<br/>Inspector General of Forests,<br/>Krishi Bhavan,<br/>New Delhi.</p> | <p>10. Shri Mahesh Buch,<br/>Secretary Forests,<br/>Government of Madhya<br/>Pradesh, Bhopal.</p> <p>11. Shri Ashok Koshy,<br/>Secretary,<br/>Forest &amp; Environment<br/>Government of Gujarat<br/>Gandhi Nagar.</p> <p>12. Dr. (Mrs.) Kamla Chaudhary<br/>Consultant,<br/>Ford Foundation,<br/>Lodi Estate,<br/>New Delhi.</p> <p>13. Shri Anil Agarwal,<br/>Centre for Science &amp;<br/>Environment,<br/>807, Bishal Bhavan,<br/>Nehru Place,<br/>New Delhi.</p> <p>14. Shri Madhav Gadgil,<br/>Indian Institute of<br/>Science, Bangalore.</p> <p>15. Shri R. N. Haldipur,<br/>Director,<br/>Institute of Rural<br/>Management,<br/>Anand.</p> <p>16. Mrs. M. Krishna,<br/>Jt. Adviser (PEO)</p> |
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**Programme Evaluation  
Organisation**

**Convener**

*Special Invitee*

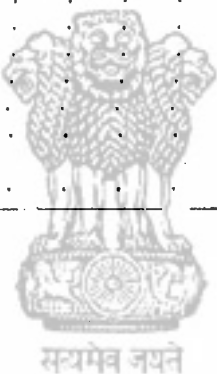
17. Shri Jairam Ramesh,  
Consultant,  
Energy Board,  
Sardar Patel Bhavan,  
New Delhi.

## Total Forest Area in India

(Area in Sq. Km.)

State/Union Territories	1972-75	1980-82	Percentage change
1	2	3	4
Andhra Pradesh	49049	40435	-17.6
Assam	21055	19796	-6.0
Bihar	22687	20139	-11.2
Gujarat	9459	5057	-46.5
Haryana	757	401	-47.0
Himachal Pradesh	15075	9130	-39.4
Jammu & Kashmir	22335	14361	-35.7
Karnataka	29480	25655	-13.0
Kerala	8611	7376	-14.3
Madhya Pradesh	108568	90215	-16.9
Maharashtra	40682	30350	-25.4
Manipur	15090	13572	-10.1
Meghalaya	14390	12458	-13.4
Nagaland	8154	8095	-0.7
Tripura	6330	5138	-18.8
Orissa	48383	39425	-18.5
Punjab & Chandigarh	1120	499	-55.4
Rajasthan	11294	5972	-47.1
Tamil Nadu	16676	13187	-20.9
Uttar Pradesh	25869	21022	-18.7
West Bengal	8347	6483	-22.3
Sikkim	1761	2883	+63.7
Arunachal Pradesh	51438	58104	+13.0
Delhi	18	10	-44.4
Goa, Daman & Diu	1221	1139	-6.7
Mizoram	13860	11971	-13.6
Total	551709	462873	-16.1

Source : National Remote Sensing Agency.



## CHAPTER II

### STUDY DESIGN AND COVERAGE

**Objectives :** The objectives of the Evaluation study of the Social Forestry Programme conducted during 1984-85 were as follows:

- (i) to study (a) the process of implementation of the programme including preparatory steps laid down and actually followed at the State/ Division Range and Village levels and (b) the extension efforts to motivate the rural community to adopt the Programme;
- (ii) to assess the organisational and administrative infrastructure for programme implementation;
- (iii) to study the area covered, species planted along with survival rate and distribution of the produce viz. fuelwood, fodder, small timber etc to the rural poor;
- (iv) to study the economic and ecological impact on the local population, particularly the rural poor.

#### Coverage

2.2 The study which covered four years from 1980-81 to 1983-84 was taken up in 16 States viz : Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan,

Tamil Nadu, Uttar Pradesh and West Bengal. The study was conducted at five levels namely (a) Forest Division, (b) Range, (c) Village, (d) Beneficiaries and (e) Nursery. The procedure followed for selection of samples at each level was as follows:

(a) *Selection of Forest Divisions :* The reference period for selection at all levels was the year 1981-82. In case the Programme was not taken up in the state in 1981-82 the reference year was 1982-83. The criterion for selection at all levels was the absolute number of seedlings distributed through all sources during 1981-82 or 1982-83, as the case may be. In case both the Centrally-Sponsored Programmes and the Externally Aided Projects were implemented during the reference year, the total seedlings distributed under both programmes were taken into account. As indicated in the earlier chapter, the Centrally Sponsored Programme of social Forestry was implemented in 157 identified districts. It was accordingly decided to select District as the second stage of sampling for the purpose of the study. However, it was observed that in some of the States, the District was smaller than a Forest Division while in others the District was bigger than a Forest Division. It was, therefore, decided to select the Forest Division in place of the Revenue District. Depending upon the size of the States and the number of PEO field units in different States, 32 Forest Divisions were selected as follows:

Number of Division Selected	No. of States	Name of States	Total number Selected
1	2	3	4
One	3	Haryana, Himachal Pradesh, Jammu & Kashmir.	3
Two	10	Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu, West Bengal.	20
Three	3	Madhya Pradesh, Maharashtra, Uttar Pradesh.	9

The Division were selected on the basis of highest achievements in terms of seedlings distributed during the reference year. The selection was done without applying any statistical methods. Since the Programme was not very old in the field, it was decided to select the Division purposively, showing highest achievement's so that at least some aspects of the programme implementation, including its impact in terms of income and employment generation and peoples' reactions to the Programme, could be assessed. In the States where more than one Division was selected, selection was done to ensure representation of different Agro-climatic regions among the selected Divisions. For that purpose, all Forest Divisions implementing Social

Forestry Programme in the State were listed under different Agro-climatic regions and the Division from each of these lists indicating best performance in terms of maximum number of seedlings distributed was selected.

(b) *Selection of Ranges :* In the selected Divisions all the Ranges were arranged in descending order of their performance in terms of seedlings distributed. A purposive sample of two Ranges from each selected Division were selected for the study. One Range showing the best performance and the other the performance of which was nearest to the average were selected, the idea being to study the working of the

Programme in such Ranges where atleast the Programme attracted the imagination of the people to some extent. The number of Ranges selected were 64.

(c) *Selection of Villages* : In each selected Range four villages were selected. All villages in the Range where seedlings were distributed to the farmers as per distribution registers maintained by the implementing agency, were arranged in descending order of the number of beneficiaries under Farm Forestry during 1981-82 or 1982-83, as the case may be. The villages were stratified into three groups according to the number of beneficiaries viz. (i) five or more than five beneficiaries, (ii) four or three beneficiaries and (iii) two or one beneficiary. In case the number of villages in the first stratum was more than four, four villages were selected at random from the first stratum. In case the number was less than four the shortfall was made up by selecting villages from the next lower stratum, by applying random numbers. The number of villages selected were 256.

(d) *Selection of Beneficiaries* : From each of the selected villages, five beneficiaries under farm forestry and five landless labourers who had worked on block plantation on Panchayat and public land were selected at random. As the Technical Advisory Committee had advised that a larger representation needed to be given to women in the selected villages, it was decided that out of five Farm Forestry beneficiary households, wherever possible, two households should be such which were headed by women. Similarly, the efforts should be to select two female out of the five wage earners, who had worked on plantations on panchayat and public land. For this purpose two separate lists of beneficiaries headed by men and women as collected from the records maintained by the implementing agency were arranged alphabetically, and the required number selected at random.

Against the estimated sample size of 1280 beneficiaries under Farm Forestry at the rate of five per village for 256 villages, actual number of the beneficiaries selected was 989 i.e. 77 per cent of the estimated sample size. In as many as 86 villages, about 34 per cent of total number of the selected villages, minimum number of the beneficiaries to be selected per village was not available which indicated that the Programme failed to take off in those areas. Actual number of the beneficiaries who were available in the selected villages at the time of the study, from whom the data were collected, was however, 907, a shortfall of 8.3 per cent in the total number of beneficiaries selected for the study. The shortfall in the number of beneficiaries from whom data were to be collected was due to fictitious names appearing in the records maintained at the Nursery and Range levels. In a few cases the selected beneficiaries were reported to have migrated from the selected villages, whereas in a few States like Gujarat, Kerala and Madhya Pradesh a good number of the selected farmers whose name appeared in the seedlings distribution registers, on field investigations, were found to have not received any benefits under the Programme. Although it was decided at the beginning to select 40 per cent of the

samples out of women beneficiaries under the programme, the number of women beneficiaries that could be actually selected for the purpose of the study was abysmally low, only 42 (4.6 per cent) in a sample size of 907, from whom the data were collected. A sample size of 1280 landless labourers at the rate of five per selected villages, who had worked on panchayat/public plantations were to be selected. In case the required number of landless labour beneficiaries were not available in the selected villages efforts were made to find out such beneficiaries within a radius of five to eight kms. from the selected villages. Failing this efforts were also made to include small and marginal farmers engaged in wage employment or panchayat/public plantation, provided they were not the beneficiaries under Farm Forestry. However, the number of landless labour beneficiaries that could be selected was 445, about 35 per cent of the estimated sample size. The beneficiaries lists were arranged alphabetically and selection was done at random, wherever necessary. The actual beneficiaries available at the time of collection of data was 440 out of which only 50 (11.4 per cent) were female. The shortfall in case of the landless labour beneficiaries was mainly due to the fact that out of 256 selected villages only in 23 cases, about nine per cent, block plantations were raised on community/public land.

(e) *Selection of Nurseries* : One Nursery out of the list of all Nurseries in the selected Range having distributed maximum number of seedlings during 1983-84 was selected. In one of the selected Ranges in Nasik Division no Nursery existed at the time of the study. Total number of the Nurseries selected for the purpose of the Evaluation study was 63. Statewise list of the selected Divisions, Ranges and the number of beneficiary households actually canvassed are given at Annex 2.1.

### 2.3 Instruments of Observation

(a) *State Level* : Guidepoints were designed for discussions with officials at the State level concerned with the planning and implementation of the programme.

(b) *Division and Range Level* : Guide points were designed for discussions with officials connected with the implementation of the Programme at the Division and Range level.

(c) *Nursery Level* : Schedule-cum-questionnaire was framed for collection of data at the Nursery level from any Government functionaries connected with the running of the Nurseries.

(d) *Panchayat Level* : Schedule-cum-questionnaire was devised for collection of data from the head of the Panchayat relating to public plantations on panchayat land in the selected villages.

(e) *Beneficiary Level* : Separate schedule-cum-questionnaire was prepared for collection of data from the beneficiaries under Farm Forestry and land-less labourers to assess the extent of participation as well as impact of the Programme.

**2.4 Training of field Staff :** Orientation training Seminars for the PEO field teams were organised on regional basis at New Delhi, Rajgir (Bihar), Madras & Nagpur during August-September 1984. The officials from the PEO Headquarters and from the concerned Departments of the State Governments also attended the Training Seminars.

**2.5** The field work incidental to the Evaluation study was taken up in most of the States in March 1985. In a few States, notably Assam and Madhya Pradesh, where field work could not be taken up along with other States due to operational problems, the study was taken up during 1985-86 and was completed by December 1985.



## List of Selected States, Divisions, Ranges and number of beneficiaries actually canvassed under forestry and landless labour

Sl. No.	State	Division	Range	Beneficiary	
				Farm Forestry	Landless labour
1	2	3	4	5	6
1. Andhra Pradesh		1. Nellore.	1. Atmakur	5	—
			2. Kavali.	—	—
			Divisional Total	5	—
		2. Sangareddy	1. Medak	18	10
			2. Sadasivapet	19	10
			Divisional Total	37	20
			STATE TOTAL	42	20
2. Assam		1. North Kamrup	1. Batabari	11	—
			2. Manas	—	—
			Divisional Total	11	—
		2. Sibsagar	1. Sibsagar	16	—
			2. Sonari	8	—
			Divisional Total	24	—
			STATE TOTAL	35	—
3. Bihar		1. Dumka	1. Godda	20	20
			2. Hizla West	20	20
			Divisional Total	40	40
		2. Gaya.	1. Aurangabad	11	—
			2. Rajgir	20	—
			Divisional Total	31	—
			STATE TOTAL	71	—
4. Gujarat		1. Baroda	1. Sankheda	17	—
			2. Saveli	11	—
			Divisional Total	28	—
		2. Kutch	1. Bhuj	17	20
			2. Gadshishish	13	19
			Divisional Total	30	39
			STATE TOTAL	58	39
5. Haryana		1. Kurukshetra	1. Kaithal	20	20
			2. Thanesar	20	20
			STATE TOTAL	40	40
6. Himachal Pradesh		1. Nurpur	1. Indora	19	15
			2. Jawali	14	12
			STATE TOTAL	33	27

1	2	3	4	5	6
7. Jammu & Kashmir		1. Anantnag	1. Anantnag	20	10
			2. Qazigund	20	18
			STATE TOTAL	40	28
8. Karnataka		1. Gulbarga	1. Sedam	17	10
			2. Yadgir	19	—
			Divisional Total	36	10
		2. Mandya	1. Mandya	19	5
			2. Nagamangla	20	20
			Divisional Total	39	25
			STATE TOTAL	75	35
9. Kerala		1. Cannanore	1. Cannanore	7	—
			2. Kasargode	6	—
			Divisional Total	13	—
		2. Trivandrum	1. Attingal	15	—
			2. Trivandrum	6	—
			Divisional Total	21	—
			STATE TOTAL	34	—
10. Madhya Pradesh		1. Jabalpur	1. Barhi	20	—
			2. Jabalpur	20	—
			Divisional Total	40	—
		2. Raipur	1. Birgudi	18	—
			2. Sirigpur	7	—
			Divisional Total	25	—
		3. Ratlam	1. Bajna	20	—
			2. Ratlam	20	—
			Divisional Total	40	—
			STATE TOTAL	105	—
11. Maharashtra		1. Ahmednagar	1. Akola	5	—
			2. Rahuri	1	—
			Divisional Total	6	—
		2. Nasik	1. Nasik	16	—
			2. Sinnar	1	—
			Divisional Total	17	—
		3. Osmanabad	1. Bhoom	20	15
			2. Osmanabad	18	8
			Divisional Total	38	23
			STATE TOTAL	61	23
12. Orissa		1. Bolangir	1. Bangomunda	19	—
			2. Loisinga	20	—
			Divisional Total	39	—

1	2	3	4	5	6
		2. Cuttack . . . . .	1. Kendrapada . . . . . 2. Kujanga . . . . . Divisional Total . . . . . STATE TOTAL . . . . .	17 20 37 76	— 2 2 2
13. Rajasthan . . . . .		1. Bharatpur . . . . . 2. Udaipur . . . . .	1. Alwar . . . . . 2. Bharatpur . . . . . Divisional Total . . . . . STATE TOTAL . . . . . 1. Bhilwara (SF) . . . . . 2. Parashad (SF) . . . . . Divisional Total . . . . . STATE TOTAL . . . . .	17 20 37 71 17 17 34 71	— — — 32 12 20 32 32
14. Tamil Nadu . . . . .		1. Chingleput . . . . . 2. Krishnagiri . . . . .	1. Chingleput . . . . . 2. Kanchipuram . . . . . Divisional Total . . . . . STATE TOTAL . . . . . 1. Dharmapuri . . . . . 2. Uthangarai . . . . . Divisional Total . . . . . STATE TOTAL . . . . .	11 17 28 45 13 4 17 45	9 — 9 34 10 15 25 34
15. Uttar pradesh . . . . .		1. Almora (West) . . . . . 2. Jhansi . . . . . 3. Lakhimpur Kheri (South) . . . . .	1. Amlora . . . . . 2. Someshwar . . . . . Divisional Total . . . . . STATE TOTAL . . . . . 1. Mauranipur . . . . . 2. Moth . . . . . Divisional Total . . . . . STATE TOTAL . . . . . 1. Gola . . . . . 2. Mohammadi . . . . . Divisional Total . . . . . STATE TOTAL . . . . .	— 5 5 63 8 11 19 63 19 20 39 63	20 20 40 85 5 20 25 85 — 20 20 85
16. West Bengal . . . . .		1. Bankura (South) . . . . . 2. Midnapore (East) . . . . .	1. Motgoda . . . . . 2. Taldangra . . . . . Divisional Total . . . . . STATE TOTAL . . . . . 1. Garbeta . . . . . 2. Midnapore Sadar . . . . . Divisional Total . . . . . STATE TOTAL . . . . . ALL INDIA TOTAL . . . . .	20 14 34 58 19 5 24 58 907	15 20 35 35 — — — 35 440



## CHAPTER III

### PROGRAMME IMPLEMENTATION

#### *Organisational Setup*

3.1 For successful implementation of the Social Forestry Programme with effective peoples' participation it is but imperative that efficient administrative organisations exist in the States with adequate trained staff at different levels. The Government of India provided recurrent expenditure in terms of the pattern of the Central assistance for the Programme on staff, plantations, and material. Non-recurrent expenditure under Central assistance was confined to the purchase of vehicles, water tankers, office equipments of a durable nature and construction of essential structures. Keeping in view the requirements of the programme, an attempt has been made in this Chapter to study the organisational set up at the State, Divisional and Range levels, its adequacy and professional skill of planning and implementation of the Programme.

3.2 *State Level* : The table at Annex 3.1 to this Chapter gives an account of the organisational set-up for implementation of the Social Forestry Programme in the States. In four States—Andhra Pradesh, Kerala, Maharashtra and Tamil Nadu—separate Social Forestry Wing was created, either within or outside the Forest Department, for implementing Externally-Aided Social Forestry Programme (SF Programme) and other Centrally-sponsored Schemes of Social Forestry including Rural Fuelwood Plantation Programme (RFWP). Additional staff under the specific schemes were sanctioned and posted at various levels in some of the States. In Assam and Bihar separate Social Forestry Wing was created for implementing Centrally-Sponsored Scheme of Rural Fuelwood Plantation and other State-sponsored Social Forestry Schemes. In seven States—Gujarat, Jammu & Kashmir, Karnataka, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal—separate organisations were created within or outside the Forest Department

for implementing Externally-Aided Social Forestry Project. In Haryana the Forest Department with separate staff implemented the World Bank-Aided Social Forestry Project, started in 1982 and covered the whole State. In two States—Himachal Pradesh & Rajasthan the Forest Department implemented all Social Forestry Programmes including Centrally-Sponsored Rural Fuelwood Plantation Programme through regular territorial Forest Divisions.

3.3 The table at Annex 3.2 to this chapter presents organisational strength of the staff sanctioned and in position as far as available at various levels in the States, at the time of the study. The staff were sanctioned and posted under Social Forestry and other allied programmes. For Rajasthan, those personnel of the regular Forest Department who were involved in Social Forestry (SF) programme in addition to normal forestry operations have been included in the table. The table reveals that while at the higher levels, up to the Assistant Conservator of Forests, sanctioned posts were, by and large, filled up, a good number of posts at the lower levels remained vacant. For two States, Haryana and Himachal Pradesh the information was not available.

3.4 *Divisional level* : In eight States namely Bihar, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal, SF programmes in the 16 selected Divisions were implemented by the regular staff of territorial/afforestation Divisions of the Forest Department. In some cases extra staff under specific schemes like RFWP, Minimum Needs Programme (MNP), National Rural Employment Programme (NREP), Drought Prone Area Programme (DPAP), etc. were sanctioned and posted at different levels within the Division, in addition to the territorial staff for normal forestry operations. The statewise status of the selected Divisions are as follows :

**Table 3.1 : Status of the Selected Divisions**

State	Selected Division	Major functions
1	2	3
1. Andhra Pradesh	1. Nellore SF Division. 2. Sangaraddy SF Div.	SF Programmes SF Programmes
2. Assam.	1. Sibsagar SF Div. 2. North Kamrup SF Div.	SF Programmes SF Programmes
3. Bihar	1. Dumka Territorial Division. 2. Gaya afforestation Division	Regular Forestry operations including SF Programmes -do-
4. Gujarat	1. Baroda extension Div. 2. Kutch extensiau Div.	SF Programmes -do-

1	2	3
5. Haryana . . . . .	1. Kurukshtra territorial Division	Regular forestry operations including SF Programmes.
6. Himachal Pradesh . . . . .	1. Nurpur Forest Division	Regular forestry operations including SF
7. Jammu & Kashmir . . . . .	1. Anantnag SF Div.	S. F. Programmes.
8. Karnataka . . . . .	1. Mandya territorial Division	Regular forestry operations including SF Programmes.
	2. Gulburga Forestry Division	-do-
9. Kerala . . . . .	1. Cannanore SF Div.	SF Programmes
	2. Trivandrum SF Div.	-do-
10. Madhya Pradesh . . . . .	1. Jabalpur territorial Division	Regular forestry operations including SF
	2. Raipur -do-	-do-
	3. Ratlam plantation Division	-do-
11. Maharashtra . . . . .	1. Ahmednagar SF Div.	SF Programmes.
	2. Nasik SF Div.	-do-
	3. Osmanabad -do-	-do-
12. Orissa . . . . .	1. Bolangir RFWP Div.	SF Programmes.
	2. Cuttak Coastal shelter belt afforestation Division.	SF and other afforestations programmes
13. Rajasthan . . . . .	1. Bharatpur territorial Division	Regular forestry operations including SF Programmes
	2. Udaipur -do-	-do-
14. Tamil Nadu . . . . .	1. Chingleput RFWP Div.	SF Programmes
	2. Krishnagiri -do-	-do-
15. Uttar Pradesh . . . . .	1. Amlora Forest Div.	Regular forestry operations including SF Programme
	2. Jhansi -do-	-do-
	3. Kheri -do-	-do-
16. West Bengal . . . . .	1. Bankura territorial Division	-do-
	2. Midnapur -do-	-do-

3.5 The table at Annex. 3.3 to this Chapter depicts total number of staff at different levels sanctioned and posted in the selected Divisions in so far as data were available at the time of the study. The staff at the Divisional level were posted on regular basis, except for a few officials in Nellore (Andhra Pradesh), Dumka (Bihar) and Anantnag (Jammu & Kashmir) Divisions, who were posted on deputation. As regards turnover of staff posted in most of the States, staff turnover, especially at the lower levels, is reported to be based on the exigency of work, rather than on a fixed tenure. The turnover was quite high in Chingleput Division (Tamil Nadu) about 20 for four Range Forest Officers and five for Divisional Forest Officer during 1981-85.

3.6 *Range Level* : In eight States—Bihar, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal—one Range Officer per Range was posted in the selected Ranges to look after Social Forestry Programme in addition to normal forestry operations. In Assam, the work of Range Officer was assigned to Dy. Range Officer in three selected Ranges. In Gujarat two Range Officers, one each for extension and programme implementation were posted in the selected Ranges. In Madhya Pradesh, additional staff support was given as and when required, mainly to handle extra workload under normal forestry operations. In Maharashtra the work at the Range level was looked

after by the Plantation Officer. In Bolangir Division of Orissa extra Forestry Extension Officer was posted at the Range level, under education & training programme in addition to one Forest Extension Supervisor in the whole Division, whereas in Cuttack Division regular Range Officer, Foresters and Forest Guards were posted. The number of functionaries posted at the Range level varied from State to State. Watchmen were appointed only in nine out of 64 selected Ranges for protecting public plantations.

#### *Adequacy of Staff Strength*

3.7 Eleven States—Assam, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal—reported that the existing set up, especially the staff at the lower levels, was not sufficient for successful implementation of Social Forestry programmes, whereas five states viz.—Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir and Madhya Pradesh reported that the present set up, at least the sanctioned strength, was adequate. In Himachal Pradesh the programme reportedly suffered for want of research staff to evolve suitable species for different climates and elevations to suit the needs of people. In Karnataka one Assistant Conservator of Forest for each of the districts where the programme was taken up needed to be posted for coordinating with the District Rural Development Agency (DRDA). In Kerala,

only one Range Officer was posted to look after the implementation of Social Forestry Programme in the whole selected Division, Cannanore, whereas the Range Officers posted in other parts of the State were allotted smaller area of operation. At further lower levels, the staff posted were also inadequate to cover the whole area effectively. In Maharashtra posting of one Plantation Officer in each Block was considered absolutely necessary, since the Block was taken as the unit for selection of villages for the programme. In Orissa, full contingent of the staff was not posted in the Social Forestry Directorate set up recently. The strength of the Directorate was also considered inadequate for implementing Social Forestry Programmes throughout the State.

3.8 In the States where Social Forestry Programme was implemented by the regular Forest Department without any additional staff support, the existing staff of the Forest Department, especially at the Range & further lower levels, was thoroughly encumbered with normal forestry and other regulatory functions, so much so that they could not do full justice to the Social Forestry work. Moreover, since the regular Forest Officials were required to enforce punitive and other unpleasant measures against the villagers in case of illegal felling and theft of forest produce, perhaps they could not be regarded as the ideal agencies to motivate villagers to take to Social Forestry. In general, there was no love lost between the forest officials, especially at the lower echelons of the hierarchy, and the villagers. In Tamil Nadu, the staff strength at the lower levels was considered inadequate to achieve the high targets laid down as well as for effective extension work. In West Bengal, the Programme suffered due to non-fulfilment of the sanctioned posts owing to financial constraints. Even in the States where administrative set up for SF Programme was considered adequate, the process of recruitment of staff at the lower levels, for example in Andhra Pradesh and Jammu & Kashmir, was very tardy.

#### *Adequacy of extension and motivation staff at the grass-roots*

3.9 The extension and motivation staff at grass-root levels who were the lynchpin of Social Forestry Programme for its successful implementation, were conspicuous by their absence in Andhra Pradesh, Assam, Bihar, Haryana, Rajasthan and Uttar Pradesh. Such posts were created and filled-up, albeit partially, in other States. In Assam, school and college students, teachers and women promoters were appointed on part-time basis in the selected pockets for motivation work. In Gujarat, the role of the extension forestry wing created within the Forest Department was to make people conscious of the seriousness of the problem and to propagate extension methods, apart from actually implementing the Programme. In the State one post of Lady Social Welfare Worker was filled-up out of four sanctioned. In Jammu & Kashmir separate extension set up was created and extension work done mostly through school seminars and farmers' camp. In Kerala the Programme at grass-root levels suffered for lack of motivation and extension staff. The work was entrusted to the voluntary agencies, for

it was considered that with high literacy rate in the state such arrangements would be more conducive to proper extension and motivation work among the villagers.

3.10 In Madhya Pradesh the extension set up was created under Externally-Aided SF Project with three levels of extension workers viz., Van Vistar Adhikari, Van Vistar Sahayak and Van Sewak. Many posts of the last two categories remained vacant. In Maharashtra extension work was proposed to be carried out by the Assistant Plantation Officers without any elaborate extension set up. In Orissa, though the SF extension Supervisors of the rank of Range Officer were appointed the system proved to be not effective for lack of training in extension methods. In West Bengal, local youth, besides the forest extension workers, were appointed at the forest beat level for motivation work. The total number of motivators and extension workers appointed was, however, abysmally low. Out of 1236 posts sanctioned, 828 or 67 per cent remained vacant.

#### *Training of staff*

3.11 In addition to in-service training for the regular Forest Department officials, short-term orientation training was organised for the SF staff on extension and afforestation techniques. However, as indicated in the table at Annex 3.3, no officials at any levels in 16 out of 32 selected Divisions were trained in Social Forestry, whereas for other three Divisions, details of staff deployment and their training were not available. The period of trainings varied widely from State to State. While orientation training of three months duration for the Social Forestry workers and other functionaries at the lower levels was organised in Madhya Pradesh, such training lasted for 2 to 3 days in Uttar Pradesh and West Bengal. Besides, training programmes in Social Forestry for the conventional forest officials at the higher levels were organised in Gujarat and Haryana at different research institutions in and out side the State. In Madhya Pradesh, Kerala and Karnataka such training programmes were organised in collaboration with the Agricultural Universities for better understanding of the problems of the rural people. In Tamil Nadu, to streamline the training Programme for the Social Forestry functionaries at the lower levels, a Training Board was set up. No permanent arrangements for training of Social Forestry Officials were, however, created in the Selected Divisions.

#### *Problems faced in motivating staff at the grass-roots*

3.12 As regards motivation of staff at grass-root levels, training in extension methodology and rural sociology is essential. In the selected Forest Divisions of Gaya, Kutch, Gulbarga, Ratlam, Chingleput and Lakhimpur Kheri the staff at the lower levels could not be properly motivated for lack of such training. In the selected Divisions, Jabalpur, Raipur, Bharatpur, Udaipur, Bankura and Midnapur, where no extra staff support was provided for implementing Social Forestry Programme, the regular forest officials considered Social Forestry work additional burden on them over

and above their normal workload. The staff at the lower levels had no incentives for being motivated to Social Forestry Programme. In Tamil Nadu, the extension workers were appointed temporarily every year. Lack of job security affected their morale as well as competence. It was also observed that they were appointed well after the onset of the planting season, whereas they should have been appointed before the commencement of the season. Late appointment of the extension workers affected preparatory work at grass-root levels. In Maharashtra the Social Forestry Project authorities faced certain staff problems arising out of direct recruitment of the graduate Assistant Plantation Officers who had to work under the departmentally promoted less qualified Plantation Officers. The personnel relations problem caused misgivings among the staff which affected implementation of the Programme.

#### *Steps suggested for motivating staff to Social Forestry Work*

3.13 Posting under Social Forestry Programme from the regular forestry operations was generally not preferred by the staff. Posting in the regular Forest Department, especially at middle and lower levels, was more attractive due to the various amenities and facilities available. Such facilities were, by and large, not available to the staff posted in Social Forestry Organisations. The difference in the service conditions and facilities affected morale of the staff at such levels. For proper motivation of the staff posted in the Social Forestry Organisations extra monetary incentives should be given to the staff posted at Range level and below. Besides, training in extension methodology should be imparted to all the staff upto those levels for improving their competence. To increase professional knowledge, technical skill and competence of the Social Forestry Workers, especially at grass-root levels, realistic training programmes should be organised for them. Perhaps it is more a problem of changing work culture, from the semi-police and regulatory functions of the forest officials connected with the protection and management of forests as a prime source of revenue, to the extension and motivation work, for enlisting participation of rural people on a mass scale in Social Forestry and Afforestation programme. The responsibilities for efficient implementation of Social Forestry Programme should not be left to the Forest Department Officials alone engaged in normal forestry operations. Separate trained staff should be provided at different levels alongwith the extension and motivation staff at the grass-roots.

#### *Advance preparatory work*

3.14 Eight States—Bihar, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu and West Bengal—had sufficient time for preparatory work before actual launching of the Programme in the field. In Kerala, though sufficient time was

available for preparatory work, since the same departmental staff was entrusted with the implementation of all Social Forestry Programmes, adequate time could not be devoted to advance preparatory work for all schemes.

3.15 Other eight States—Andhra Pradesh, Assam, Haryana, Jammu & Kashmir, Karnataka, Maharashtra, Orissa and Uttar Pradesh—reported that sufficient time was not available for advance preparatory work. In Andhra Pradesh, no preparatory work was possible due to the implementation of many schemes in haste at a time. In Assam, the problem reported was delayed sanction of funds. In Jammu & Kashmir, three months' time was not considered sufficient for identification of areas for the Programme. In Karnataka, due to very late clearance of the Project by World Bank, adequate preparatory time for advance action was not available. Similarly, since funds under NREP were released on ad-hoc basis, it was not possible to form any idea in advance about the quantum of funds likely to be made available. Hence no preparatory work could be taken up. However, for Centrally—Sponsored SF Schemes, no such problem was encountered. In Maharashtra, expansion of the Horticulture and Social Forestry Department was abrupt and left not much time for advance preparatory work. In Uttar Pradesh, seedlings for distribution under Farm Forestry could not be raised in time, as due to shortage of time suitable land for raising nurseries could not be identified in convenient locations. As a result, the Nurseries were raised in remote areas wherever land was available.

#### *Advance action taken*

3.16 Seven Divisions—Gaya, Dumka, Baroda, Ahmednagar, Nasik, Mandya and Udaipur had adequate time for site clearance, survey and demarcation of areas for plantation, acquisition of public/panchayat land, wherever available, and raising of seedlings in the Nurseries. In eight Divisions—North Kamrup, Sibsagar, Kurukshetra, Anantnag, Bharatpur, Lakhimpur Kheri, Bankura and Midnapur only publicity work among the villagers through meetings and short duration training camps were organised as preparatory to commencement of the Programme, whereas in another nine Division—Nellore, Sangareddy, Nurgur, Almora, Jhansi, Krishnagiri, Gulburga, Bolangir and Cuttack—no preparatory work could be taken up, either for lack of sufficient time or for want of adequate funds in advance. In Chingleput Division preparatory work of extension and motivation suffered due to very late appointment of the Social Forestry workers who were engaged on year to year basis, after the planting season had started. In three selected Divisions of Madhya Pradesh preparatory work was confined to advance action for plantation on Government forest land only. In Kutch the Programme was launched without any preparatory work on the basis of previous knowledge of the Forest Division. No information regarding preparatory work done was available for Osmanabad, Cannanore and Trivandrum Divisions.

### *Steps taken to create awareness of Social Forestry*

3.17 With a view to creating a sense of awareness among the rural population regarding the basic concept of Social Forestry with particular references to site preparation, selection of the right type of species, essential inputs and plant protection measures, a few steps such as publicity through mass media, distribution of pamphlets and booklets, organising lectures at schools and colleges, block meets of development and extension workers and personal contacts with the villagers at weekly markets and at the Nursery levels, were taken up at range/beat and at village levels in some of the selected Divisions. In a subsequent chapter, it has been clarified that the Forest Department was mainly instrumental in spreading the message of Social Forestry in so far as more than two-thirds of the selected beneficiaries under Farm Forestry reported awareness of the Programme through them. In Almora Division—such preparatory work was, however, not done, since no programme of Farm Forestry was implemented at the village level. In Jhansi and Lakhimpur Kheri Divisions adequate preparatory work was also not taken up by the Forest Department at grass-root levels to make people aware of the benefits under Social Forestry. Farm Forestry was mainly confined to peripheral Activities around urban and semi-urban areas. The weak extension machinery in the absence of the trained staff was responsible for not being able to persuade the panchayats to release gram samaj land for block plantations. In most of the cases block plantations were raised on the gram samaj land made available through the efforts of the district administration. In Tamil Nadu the Forest Department officials and the village level Social Forestry workers took the help of the village Social Forestry Committees in making the villagers aware of the benefits under the Programme. However, in one of the selected Divisions Krishnagiri, such committee existed on paper only.

### *Problems faced in the absence of extension and motivation staff at the grass-roots*

3.18 In the Selected Forest Divisions where no extra extension and motivation staff at the grass-roots were appointed, the forest officials engaged in the implementation of Social Forestry Programme found it extremely difficult to shoulder the additional responsibility over and above their normal workload. Moreover, for lack of proper orientation training, they were perhaps not properly attuned to making the rural people aware of the benefits under Social Forestry through extension work. Their role in the Programme was essentially confined to distributing seedlings from the Nurseries. Lack of coordination between the forest officials and Block agencies observed in certain States like Madhya Pradesh, Rajasthan, Kerala and Tamil Nadu also affected the implementation of the Programme. The Programme, especially Farm Forestry by and large, suffered heavily due to lack of follow-up measures. After the seedlings were supplied the farmers were left to fend for themselves. No arrangements were followed through for getting feed back on the implementation of the Programme through regular field visits by the implementing staff.

### *Special incentive Schemes for the beneficiaries*

3.19 In addition to free distribution of seedlings and other inputs in most of the States, special incentive schemes were also implemented in some of the States as a measure to popularise Social Forestry on community as well as on individual basis. In the tribal areas of Gujarat, cash subsidy was given to the tribals for raising minimum plantation of 2500 trees. For integrated plantation, either of Eucalyptus or Subabul, the State Government offered subsidy per hect. ranging from Rs. 800 in second year of plantation to Rs. 700 in the seventh year, subject to maximum of Rs. 2050 for the whole period. Under the scheme of reforestation of degraded forest land, small and marginal farmers were given cash subsidy of Rs. 250 per hect., in addition to other free inputs, provided the survival rate was 70 per cent and above. In Himachal Pradesh wire and fencing posts were supplied free to the farmers raising 1000 and above plants. In Madhya Pradesh under Hitgrahi Scheme under Social Forestry ten hec. of Government land were allotted to each family on which the Forest Department planted trees at the rate of one hect. per year. The beneficiaries, received Rs. 60 per month for keeping watch on the plantation, while the Forest Department incurred all planting and maintenance expenses. On harvest the beneficiaries would get full returns from the trees.

3.20 In Maharashtra, cash incentive of Rs. 60 per annum per hect. for a period of five years was given to the selected SC & ST marginal farmers for taking up private plantation of fuel/fruit trees in "project villages" only. In Rajasthan the tribals were engaged under "Social security through plantation for tribal areas", on a monthly wage of Rs. 250 for plantation on two hec. per year for 15 years and for its protection until harvest. In addition, they were also given 40 paise and 30 paise per surviving plant at the end of second and third year respectively. They would also get 20 per cent of the net profit from the harvest. About 450 families in the State were benefited under the Programme. In Uttar Pradesh a person was allowed to plant trees along a specified road length or on specified area and reap harvest. Initial wages were also paid for digging pits for planting trees. No information regarding number of the beneficiaries under this scheme was, however, available. In West Bengal, the Forest Department encouraged the landless labourers who were allotted vested waste land as patta land to grow Farm Forestry on such lands by providing incentives in cash and kinds. However, no precise information about the use of patta land by the allottees for Farm Forestry was available.

### *Cash Subsidy on survival percentage of plants*

3.21 To encourage proper upkeep and maintenance of plantation, cash subsidy to farmers on the basis of survival percentage was also granted in a few States. In Nellore Division the farmers were given incentives of 25 paise per plant during the planting season and another 25 paise per surviving plant in the second year. In Udaipur, under the scheme of allotment of denuded forest land for raising plantation, a cash subsidy of 40 paise and 30 paise were given per surviving

plant in second and third year respectively. In this Division the tribals were also given 100 or more plants for planting on owned holding with cash subsidy of rupees two and three per surviving plant at the end of first and second year. In Chingleput Division IRDP card holders were given special cash incentives subject to maximum of Rs. 155 per planting season for 500 or more seedlings. In Bankura and Midnapur Divisions selected beneficiaries under Externally-Aided Social Forestry Programme were given 40 to 50 grams of chemical fertiliser per planted seedling and 1/2 litre insecticides per hect. of plantation free of cost. Besides, a cash subsidy of 10 paise and 15 paise per surviving plant at the end of second and third year respectively was also given, subject to a maximum of Rs. 75 each year.

#### *Arrangements for research and development of species*

3.22 Several States like Andhra Pradesh, Bihar, Himachal Pradesh, Orissa and Uttar Pradesh reported that no efforts were made for research and development of species of trees suitable for particular agro-climatic zones, keeping in view problems of depletion of soil nutrient and fall in water table. In Andhra Pradesh, field research in this respect was totally lacking. In Himachal Pradesh the work was being tackled in day to day working of the Forest Department. Moreover, no problem of depletion of soil nutrient or fall in water table was perceived. In Uttar Pradesh no such efforts made, as Forest Research Institute, Dehra Dun, had over the years, evolved suitable species for different agro-climatic zones in the State. Five States—Assam, Jammu & Kashmir, Karnataka, Maharashtra and West Bengal—reported that the Silvicultural Division of the Forest Department was seized of the problems and several varieties suitable for different agro-climatic zones in the States had been developed by him. In Gujarat Training Research and Communication circle in the Forest Department set up for identification of suitable varieties for various localities carried out research in this regard.

3.23 In Haryana a research unit under Externally-Aided SF Programme was engaged in developing new species. Efforts were also made for developing suitable species for desert and sandune areas. In Madhya Pradesh, preference was given to the local, hardy, fast growing varieties which were good cooipers as well. In Kerala, development of species had been taken up with Central Plantation Crop Research Institute, Kerala Forest Institute and Agricultural Universities in the State. In Tamil Nadu, afforestation in community land was taken up since 1961 and suitable species for different climatic zones had already been identified.

#### *Criteria for selection of districts/divisions for Social Forestry*

3.24 Acute shortage of fuelwood and timber was the main consideration for selection of most of the districts for Social Forestry Programme. Among

other criteria, availability of vast stretch of Government/private waste land was cited as one of the major reasons for selection of districts like Nellore in Andhra Pradesh, Mandya and Gulbarga in Karnataka, Jabalpur in Madhya Pradesh, Bolangir in Orissa and Jhansi in Uttar Pradesh. High incidence of joblessness among the rural poor, especially marginal farmers and landless labourers, also led to selection of Dumka in Bihar, Mandya and Gulbarga in Karnataka and Bolangir in Orissa. In Assam, Social Forestry was taken up in the flood affected districts of North Kamrup and Sibsagar in the lower Bhrahmaputra valley mainly to combat soil erosion.

#### *Arrangements made for distribution of seedlings*

3.25 With a view to studying as to how for the input delivery system was geared to cope with the requirements of the massive tree plantation programme, one Nursery having distributed maximum number of seedlings during 1983-84 was proposed to be selected in each of the 64 selected Ranges. In Sinnar range of Nasik Division in Maharashtra no Nursery for raising seedlings under Social Forestry existed at the time of the study. Hence, total number of the Nurseries selected was 63. Out of 63 Nurseries studied, size of 31 was less than one hect. in each case, 17 Nurseries had one to two hec. each and another 14 Nurseries had more than 2 hec. each, whereas data relating to the size of one Nursery were not available.

#### *Yearwise distribution of Seedlings*

3.26 The table at Annex 3.4 to this Chapter presents the number of seedlings of all species distributed to different agencies yearwise and percentage share of distribution to individual farmers, by each of the 63 selected Nurseries, upto 1983-84. Whereas seedlings were distributed by the selected Nurseries each year to the different agencies such as individual farmers, panchayats as well as for departmental plantations on roads, along canal banks and railbed, all of them did not distribute seedlings to individual farmers under Farm Forestry. The relative position is as follows :

Table 3.2 : Distributed Plants to Different Agencies and farmers

Year	Number distributed seedlings to different agencies	Number distributed seedlings to different agencies including individual farmers
1	2	3
1980-81	14	9
1981-82	25	20
1982-83	50	44
1983-84	62	56

During 1983-84, 56 out of 63 (89 per cent) selected Nurseries distributed seedlings to different agencies including individual farmers, while in each of the earlier years, the number of Nurseries which distributed seedlings to the above agencies was much less. However, since the data relating to date of setting up of the Selected Nurseries were not available, it was not known as to how many amongst them were actually functioning in each year.

**Table 3.3 : Yearwise Distribution of average number of plants (000) per Nursery**

Year	Seedlings distributed to different agencies including individual farmers	Seedlings distributed to individual farmers only	Per cent of Col 3 to Col 4
1	2	3	4
1980-81	136.0	75.1	55.2
1981-82	222.2	192.4	86.6
1982-83	164.2	124.1	75.6
1983-84	198.8	112.9	56.8

The above figures are based on the number of Nurseries which had distributed plants to different agencies including individual farmers. During 1980-81 viz. the initial year of the adoption of the programme, each of the nine selected Nurseries distributed on an average 136,000 seedlings to the different agencies out of which 55 per cent were distributed to individual farmers. Next year there was a quantum jump in terms of number of seedlings distributed to the different agencies including individual farmers, as each of the 20 selected Nurseries

distributed on an average 222,000 seedlings out of which 86.6 per cent were distributed to individual farmers. Thereafter although the volume of seedlings distribution, both to different agencies as well as to farmers increased in each of the next two years, average number of seedlings distributed per Nursery to individual farmers plummeted below 1981-82 level, which indicated lesser involvement of the selected Nurseries in Farm Forestry.

#### *Area coverage by the Selected Nurseries*

3.28 For 34 Nurseries no precise area of jurisdiction had been specified by the authorities. In case of the rest 29 Nurseries, area of jurisdiction in terms of number of villages as specified by the authorities was as follows :

Sl. No.	Number of Nurseries	Jurisdiction
1	14	upto 25 villages
2	6	26 to 50 villages
3	2	51 to 100 villages
4	2	101 to 150 villages
5	1	151 to 200 villages
6	4	above 200 villages

The above table shows that each of the 29 Nurseries for which data were available had a fairly large number of villages to cover. Nine Nurseries had more than 51 villages each to cover. The details of the above nine Nurseries with actual size of each Nursery and number of seedlings raised and distributed to farmers during 1983-84 are summarised in the table on the next page to make indepth study as to how far the Nurseries were able to perform the task effectively.

**Table 3.4 : Plants raised and Distributed in 1983-84**

State	Division	Range	Area of the Nurseries (Hect.)	Area of jurisdiction (No. of villages)	Plants		Percentage of Col. 7 to Col. 6	Whether demand met in full
					Raised	Distributed to farmers 1983-84		
1	2	3	4	5	6	7	8	9
Bihar	Gaya	Rajgir	1.00	300	48200	25671	53.3	Yes
Madhya Pradesh	Jabalpur	Barai	0.40	73	32500	20419	62.8	Yes
		Jabalpur	0.50	150	15469	14119	91.3	Yes
	Raipur	Birgudi	2.00	80-100	6699	1150	17.2	Yes
		Singpur	5.00	125-150	1121	200	17.8	Yes
Rajasthan	Bharatpur	Alwar	0.90	250-300	20000	194041	97.0	Yes
Uttar Pradesh	Lakhimpur Kheri	Gola	2.50	210	239800	224033	93.4	Yes
		Mohammadi	2.50	200	284000	235000	82.7	No.
West Bengal	Midnapur (East)	Garbeta	0.10	321	28393	28393	100.0	40% of the demand could not be met.



3.29 It is evident from the data that the size of some of the selected Nurseries was abysmally small, whereas they were required to cover a very large area. For example, the size of the selected Nursery of Garbeta Range in Midnapur Division was only 0.10 hect., while the Nursery was required to cover 321 villages. Similarly, the size of the Nurseries selected in Bharatpur, Jabalpur and Gaya Divisions ranged between 0.40 and 1.00 hect. although most of them were supposed to cover on an average more than 150 villages each. The selected Nurseries in Gaya, Jabalpur and Raipur Divisions had also grown much less seedlings for distribution to farmers and others. The Nursery at Singpur Range having an area of 5.00 hect. had grown only 1121 plants during 1983-84 out of which only 200 had been distributed to farmers. It is thus apparent from the actual performance vis-a-vis the size of the above selected Nurseries that the Nurseries had worked much below capacity, probably due to less demand for seedlings. The selected Nurseries in some other Divisions with almost the same average size had grown much more seedlings. For example, both the selected Nurseries in Lakhimpur Kheri Division with an area of 2.50 hect., each had grown more than two lakh plants each during the same period.

3.30 The above nine selected Nurseries, each of which, except one, covered more than 100 villages, reported to have met, by and large, the requirement of the area in full. Only the selected Nursery in Mohammadi Range of Lakhimpur Kheri Division, reported that about 40 per cent of the demand for seedlings could not be met in full, although no action to meet the shortfall in supply was contemplated. But if we consider actual performance of the above Nurseries in terms of distribution of seedlings to the individual farmers under Farm Forestry vis-a-vis the area of jurisdiction each had to cover, the reply that the requirement of the area could be met in full pointed only to the lack of sufficient demand for seedlings from the farmers of the area. This simply reflected the inadequacy of the extension work to make the farmers responsive to the programme of Social Forestry. Such observation was further confirmed by the performance of the selected Nurseries of Rajgir, Jabalpur, Barhi, Birgudi and Singpur Ranges. It is highly improbable that from such large areas, as covering more than 100 villages, each selected Nursery was required to serve, the demand for seedlings from individual farmers could have been so low had there been proper extension work to make the people conscious and to enthruse them to participate in the programme on an increasing scale. Whatever demand for seedlings from the limited number of individual farmers had been made to the Nurseries, the same could be met.

#### *Extension of farmers' participation in the Programme*

3.31 An unusual feature of the Social Forestry Programme worthy of consideration, was that even after four years of operation the programme had failed to enlist farmers' participation in the programme to the desired extent, as was evident from the meagre

off-take of seedlings by these groups. Moreover, as the actual physical achievements of the above nine selected Nurseries showed, seedlings raised together during 1983-84, about 8.5 lakhs, were just sufficient for being planted on about 400 hect. only as per the average planting norm of 2000 plants per hect. The infrastructure available for raising and distribution of seedlings was hardly sufficient to cope with the requirement of the massive plantation programme to be undertaken under Social Forestry. There is need for vigorous extension work, especially at the grass-roots, if the Social Forestry Programme has to make considerable stride in the coming years. The manner in which seedlings were distributed from the Nurseries to individual farmers under Farm Forestry, especially where the Nurseries were supposed to cover a very wide area, only confirmed that perhaps due importance was not being given to the extension part of the Programme by the implementing agencies.

#### *Distribution of Seedlings to farmers*

3.32 The following table shows number of farmers who were distributed plants yearwise by the selected Nurseries, according to the number of plants distributed.

**Table 3.5 : Distribution of Farmers according to No. of Plants Distributed**

No. of plants distributed	No. of farmers received plants in different years			
	1980-81	1981-82	1982-83	1983-84
Range				
1	2	3	4	5
Up to 50	93 (8.4)	4467 (64.0)	27842 (68.2)	27866 (68.1)
51-100	55 (5.0)	386 (5.5)	4721 (11.5)	3850 (9.4)
101-500	730 (66.3)	1233 (17.7)	4948 (12.1)	6647 (16.3)
501-1000	147 (13.4)	395 (5.6)	2475 (6.1)	1623 (4.0)
1001-5000	67 (6.1)	477 (6.8)	828 (2.0)	871 (2.1)
5001-10000	7 (0.6)	22 (0.3)	28 (0.1)	34 (0.1)
above 10,000	2 (0.2)	1	4	11
Total	1101 (100.0)	6981 (100.0)	40846 (100.0)	40902 (100.0)

[(The figures in brackets indicate percentage of total number of farmers).]

In the initial year 1980-81 only 13 per cent of the farmers were distributed plants upto 100 each, whereas 730 farmers (66 per cent) received plants between 101 and 500 each. Thereafter, during each of the subsequent years upto 1983-84 about 75 per cent of the total farmers on an average had received plants upto 100 each which apparently indicated that the programme was gradually catching up with the small and



marginal farmers for whom the programme was essentially meant. During 1982-83 and 1983-84, four selected Nurseries in Bihar alone had distributed plants upto 50 each to 56 per cent and 40 per cent respectively of the total farmers falling within this group.

3.33 In Kerala, distribution of plants to the farmers actually gathered momentum from 1982-83. During 1983-84, four selected Nurseries in the State alone covered more than 33 per cent of the total farmers who were distributed plants between 101 and 500 each by the selected Nurseries. The above data tend to point towards distribution of plants to fairly large size cultivators in Kerala. In Andhra Pradesh and Karnataka together number of farmers who were distributed plants between 501 and 1000 each was fairly large during 1982-83, viz. 1130 out of 2475 (46 per cent) falling within this group. In these States Principal beneficiaries under Farm Forestry were big farmers, whereas the Programme was primarily meant for the small and marginal farmers. Limiting the maximum number of seedlings to be distributed may help check this lopsided achievements. Number of big landlord farmers who were distributed plants above 10,000 each increased from two, in 1980-81 to eleven in 1983-84. In respect of the selected Nurseries in other states no definite pattern of distribution of plants to the farmers of different size-groups was perceived.

#### Major species grown by the Selected Nurseries

3.34 On going through the data collected from the selected Nurseries it was observed that a fairly large number of species were grown and distributed by these Nurseries. As it was difficult to analyse the data and comment on all the species grown some major species commonly grown by a good number of the selected Nurseries were studied in-depth. The following table indicates some of the major species and the number of percentage of the Nurseries growing such species :

Species	No. of Nurseries	%
1. Albezia Lebbeck (Siris)	9	14.3
2. Azadirachia Indica (Neem)	8	12.7
3. Casuarina Equisitifolia (Saras)	13	20.6
4. Delbergia Sissoo (Shisham)	22	34.9
5. Delonix Regia (Gulmohar)	8	12.7
6. Eucalyptus	45	71.4
7. Leucaenea Leucocephala (Subabul)	17	27.0
8. Fruits	22	34.9

Eucalyptus was most popular amongst the species grown and distributed by as many as 71 per cent of the Nurseries studied. The next varieties in terms of popularity were Delbergia sissoo (Sishum) and fruits species grown and distributed by 35 per cent of the selected Nurseries. Name of the States & selected Divisions growing most popular varieties of the species are given at Annex. 3.5 to this Chapter,

#### Arrangements for free and priced supply of seedlings

3.35 Free seedlings were supplied to the farmers by the selected Nurseries in 10 out of 16 States in Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh (only two Divisions), Maharashtra, Orissa, Rajasthan and West Bengal. In other States supply of seedlings were priced, although no uniform policy with regard to the priced supply of seedlings was followed. In these States details of the differential rates of supply of seedlings are indicated below :

States	Rates at which seedlings were supplied to farmers & others
1. Andhra Pradesh	In Nellore Division free supply upto 2000 plants, above 2000 @ 25 paise per plant. In Sangareddy Division free supply upto 500 plants, above 500 @ 5 paise per plant.
2. Haryana	Free supply to small & marginal farmers. For others @ 20 to 30 paise per plant depending on type of species.
3. Himachal Pradesh	@ 10 paise per plant to individual; supply to the institutions & other Department free.
4. Karnataka	One selected Nursery in Mandya Division supplied upto 2000 plants free and charged 25 paise per plant beyond that limit.
5. Madhya Pradesh	In Ratlam Division two selected Nurseries supplied free upto 10 plants per farmer. Supply beyond that varied 50 paise to Rs. 1.50 per plant depending on age and species of plants.
6. Tamil Nadu	In Chingleput Division free supply to IRDP Cardholders and @ 10 paise per plant to others. In Krishnagiri Division supply free upto 500 plants and thereafter at 15 paise per plant.
7. Uttar Pradesh	In Almora Division free supply to the Departments and to others at 15 paise per plant with 5 paise extra per plant for polythene bags. In Jhansi Division supply was free to army personnel and 10, 15 & 20 paise per plant to marginal, small farmers and others respectively. In Lakhimpur Kheri at 10 to 20 paise per plant depending upon the species planted.

3.36 In the light of the above observations in different States it is considered that for proper utilisation of the seedlings supplied under the Programme and

to prevent its wastage to the minimum, it is but imperative that the farmers develop interest in the seedlings supplied. This would be possible if they are required to pay for it, however nominal that may be. Since small and marginal farmers and other weaker sections of the society may not afford to pay for the seedlings, the supply to this category of persons may be kept free upto a certain limit, say 100 plants per person. Supply of seedlings above that limit should be priced.

**3.37 Arrangements for carrying seedlings from Nurseries :** In almost all cases the farmers had to make their own arrangements for transporting seedlings from the Nurseries. In Cannanore Division of Kerala, however, arrangements were made in 1983-84 to supply seedlings through the Blocks and panchayats. Locations were specified by the DRDA/Block Committees from where free seedlings were supposed to be distributed under their supervision. But the Blocks later on failed to take enough interest in supervising distribution of seedlings. As a result, supply of seedlings from the specified locations suffered badly. In Maharashtra free transportation of seedlings was provided to the farmers from the adopted villages of Ahmednagar and Osmanabad Divisions, while the farmers in the other selected Division Nasik had to make their own arrangements for carrying seedlings to their farms.

#### *Suggestions for improvement in the distribution of seedlings.*

**3.38** The above analysis unfolded the inadequacy of the existing input delivery system at grass-root levels, with regard to growing and distribution of seedlings to the farmers to support the massive tree plantation programme under Social Forestry. There is imperative need for setting up more Nurseries in rural areas for wider coverage. Moreover, since conventional methods of multiplying seedlings in the Nurseries is time-consuming, technological innovations like tissue culture by which large number plants could be regenerated from a small piece of tissue or cells under artificially controlled conditions within a short span of time should be encouraged. The field research should primarily aim at tapping vast potential of this technique.

#### *Physical Achievements under the Programme*

**3.39** With a view to assessing the progress of implementation of Social Forestry Programme, data on physical achievements in terms of seedlings distributed and area brought under plantations were collected from different States. The table at Annex 3.6 to this chapter presents yearwise achievements under Centrally-sponsored SF Schemes including RFWP during the period under review, collected in course of the study and the same obtained from the progress report compiled by the Ministry. Before attempting a critical analysis of the data on physical achievements under Social Forestry in different States, perhaps it would be interesting to comment on wide divergence in the two sets of data for some of the States. In Assam, yearwise achievements data pertaining to distribution

of seedlings supplied by the Forest Department comprised both Central and State Sector SF Programmes. Even then the data appeared to be less than the achievements under Centrally-Sponsored SF Schemes including RFWP, as per the Ministry's progress report. In Bihar, physical achievements in terms of number of seedlings distributed during 1982-83 and 1983-84 were much less than the data compiled by the Ministry. In Rajasthan 21 lakhs seedlings were reported to have been distributed during 1982-83, vis-a-vis a little over 100 lakhs as per the Ministry's progress report. The data for 1981-82 was not available while difference between the two sets of achievements data for 1983-84 was not so pronounced. No data on physical achievements in terms of free distribution of seedlings were available from Gujarat and Madhya Pradesh. For Madhya Pradesh, total seedlings distributed under all SF Programmes were reported under Externally-Aided SF Programme. In Gujarat Centrally-Sponsored RFWP was implemented in the forest areas of seven districts in the State and therefore, the seedlings distributed were presumably used for raising plantations, on forest lands, whereas 435 lakh seedlings are reported to have been distributed under the Programme till 1983-84 as per the Ministry's progress report. In Tamil Nadu, 11.37 lakh seedlings are reported to have been distributed in 1983-84, according to the Ministry's progress report, vis-a-vis 109.04 lakhs reported by the State in course of the study.

**3.40** As regards the area brought under plantations, three States—Assam, Madhya Pradesh & Orissa—reported higher achievements than what the Ministry's progress report depicted. While for Assam, wide variation between two sets of data are understandable due to the reasons stated above, for Madhya Pradesh area brought under plantation in 1981-82 was reported as 11821 hect., whereas only 3273 hect. were planted during the same year as per the Ministry's progress report. For Orissa also the yearwise achievement figures were very much on the higher side as compared to the figures compiled by the Ministry. The State Forest Department could not furnish any basis of the process of target setting and compilation of achievement figures. They simply supplied the figures as given in the State's Annual Plan Document. In the absence of any logical basis of computation of data, veracity of physical achievements, under the Programme as furnished by the Forest Department could not be relied upon. This general impression about authenticity of the data on achievements, by and large, holds good for almost all States, of course, with minor exceptions here and there, due to the absence of a reasonably good basis of estimation of achievements under SF Programme which most of the States failed to provide.

**3.41 Targets & achievements :** The tables at Annexes 3.7 and 3.8 to this chapter give yearwise targets and physical achievements in terms of seedlings distributed and area covered by plantations respectively, separately for Externally-Aided and Centrally-Sponsored SF Programmes including RFWP. As regards physical achievements under Externally-Aided Programmes, wide variation between the achievements data compiled by the Ministry and the same collected

from the States in course of the study was also perceived. But as already indicated, no basis of computation of physical achievements at the State level was available, in the absence of which wide variation between two sets of achievement data could not be explained. As the data disclosed, for some of the

States seedlings actually distributed under both the Programmes were much more than what was targeted, the extent of increase in some cases was more than 200 per cent. The cases where the difference between the two sets of data is comparatively more pronounced are as follows :

Table 3.6 : Seedlings Targeted and Distributed

(In lakhs)

Programme/State	1981-82		1982-83		1983-84	
	Targeted	Distributed	Targeted	Distributed	Targeted	Distributed
1	2	3	4	5	6	7
I. Centrally Sponsored Rural Fuelwood Plantation Programme :						
Jammu & Kashmir	—	—	—	—	70.00	93.15 (133.07)
Kerala	—	—	35.00	80.00 (228.57)	40.00	80.00 (200.00)
Maharashtra	—	—	20.20	25.80 (127.72)	120.00	171.42 (142.85)
II. Externally aided SF Project :						
Maharashtra	—	—	—	—	20.20	40.10 (198.51)

(Figures in bracket indicate percentages of targets).

3.42 The Evaluation study revealed that the data and information base under the programme was very poor in some of the States. No checks were practically made to ensure that the reported number of the seed beds were actually raised in the Nurseries. As a result, authenticity of the number of seedlings raised could not be substantiated by relevant records. The field investigation also disclosed that the number of seedlings reported to have been distributed had been inflated out of proportion in a few cases. This appears to be a serious matter, for the actual expenditure incurred in raising and distribution of seedlings might be much less than the reported expenditure on the overrated physical achievements and what happened to be the difference in expenditure amount could as well be a subject for further investigation.

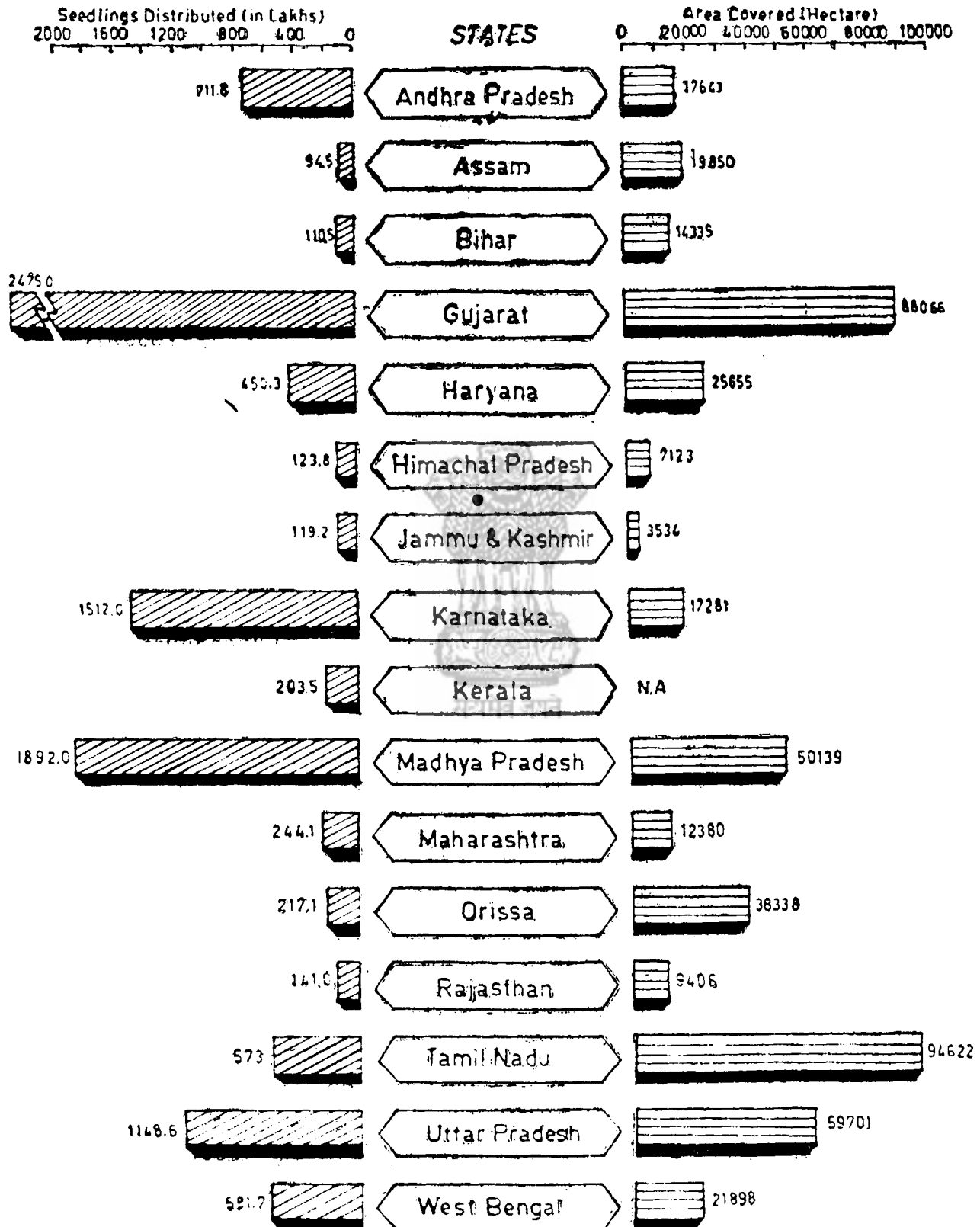
3.43 The chart on the next page depicts statewide physical achievements upto 1983-84 under both the Programmes. Tamil Nadu showed highest achievements in terms of area coverage (94622 hec.), whereas in terms of seedlings distribution under Farm Forestry it ranked seventh amongst the States with 573 lakhs distributed under both the Programmes. In Gujarat which ranked second in area coverage, 88066 hec. are reported to have been covered by plantation and 2475 lakhs seedlings distributed during the same period. Under Centrally-Sponsored RFWP no seedlings were distributed in Gujarat. However, for Gujarat and Madhya Pradesh achievements data relating to seedlings distributed comprised all SF Programmes implemented in the State and hence are not comparable with the achievements data of other States. In Orissa, both sets

of achievement data seem to have been inflated out of proportion, as could be seen when the figures are further compared with the expenditure incurred on the Programme. In States like Assam, Bihar, Madhya Pradesh, Uttar Pradesh and West Bengal which reported acute shortage of encroachment free public/community land for raising plantation, moderate to fairly substantial achievements in terms of area brought under plantation betrayed eagerness of the State Governments to accomplish targets set under SF Programme, through largescale reforestation of degraded forest land which, strictly speaking, was not one of the major thrusts of the Programme. In States like Andhra Pradesh, Karnataka and Maharashtra where Externally-Aided SF Programme was one or at least two years old, progress of area brought under plantation was modest. In Andhra Pradesh and Karnataka Programmes of seedling distribution under Farm Forestry during the same period was however quite remarkable.

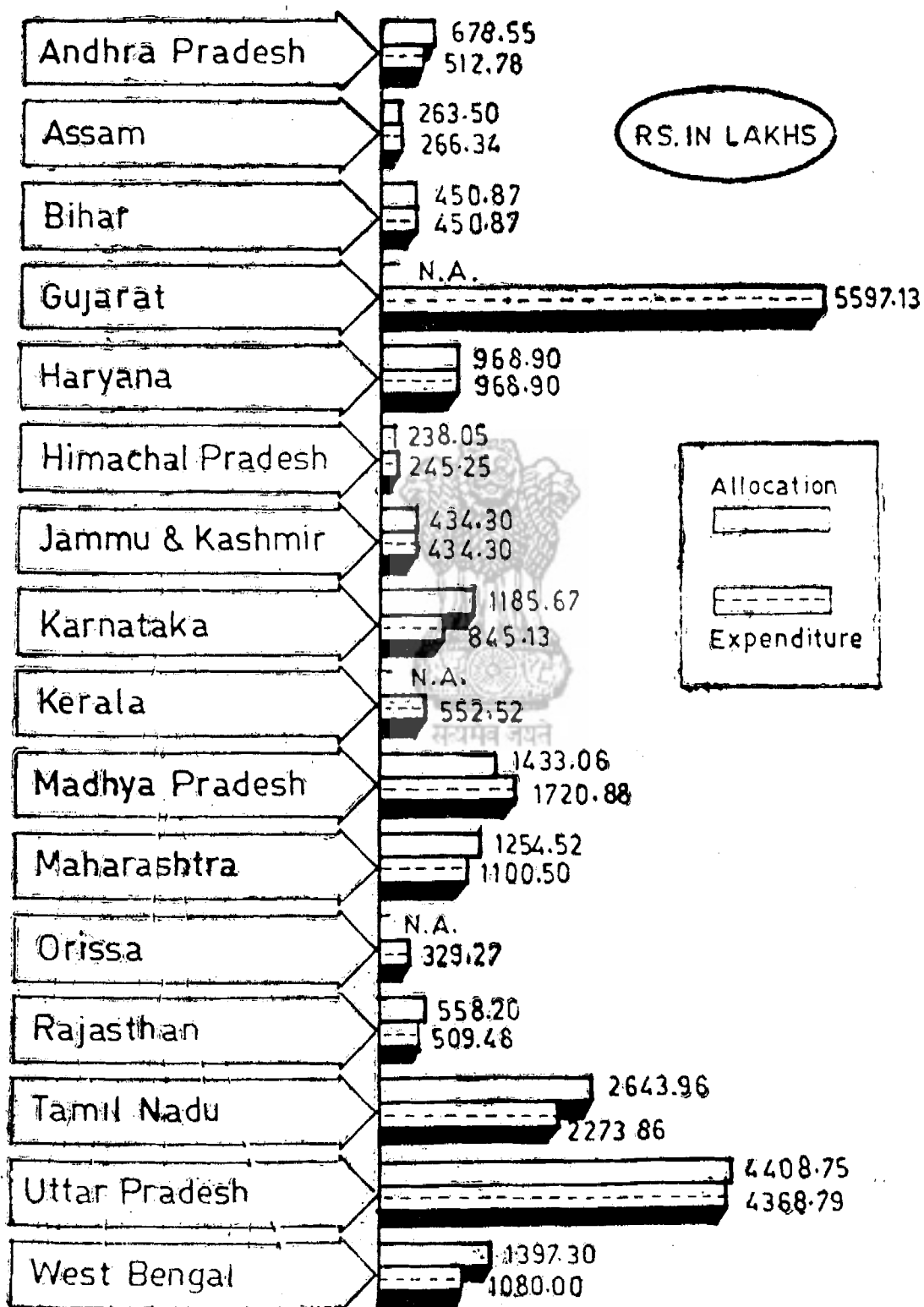
#### Allocation and Expenditure under SF Programmes

3.44 The table at Annex 3.9 to this chapter indicates yearwise total allocation and expenditure separately under Externally-Aided and Centrally Sponsored SF Programmes, in so far as the data were available in course of the study. The following chart (page No. 26) gives Statewise allocation and expenditure under both the Programmes upto 1983-84. It is evident from the above chart that there is no correlation between the performance graphs of some of the States and the expenditure incurred thereon. Although there might be plausible reasons for that, as the type and nature

## Achievements under Centrally Sponsored & Externally Aided S F Programme between 1980-81 and 1983-84



# ALLOCATION AND EXPENDITURE UNDER CENTRALLY SPONSORED AND EXTERNALLY AIDED PROGRAMMES UPTO 1983-84



of the Programme varied widely among the States, certain glaring disparities in the Statewise performance and expenditure data merit consideration. Tamil Nadu reported highest achievements upto 1983-84 in terms of area brought under plantations of 194622 hectares as against 88066 hectares reported by Gujarat, whereas total expenditure under both the Programmes in Tamil Nadu was Rs. 2274 lakhs which amounts to about 40 per cent of total expenditure incurred in Gujarat under both the Programmes. The physical achievements in Assam, Madhya Pradesh and Orissa appear to have been blown up disproportionate to expenditure incurred on the Programme.

3.45 *Utilisation of funds* : Data relating to year-wise allocations under both Centrally-Sponsored and Externally-Aided SF Programmes were not available for Gujarat, Kerala, and Orissa. Seven States, Andhra Pradesh, Karnataka, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal could not spend the whole amount allocated under Social Forestry, the degree of under-utilisation ranged from less than one per cent in Uttar Pradesh to 29 per cent in Karnataka. In Karnataka Rs. 335 lakhs only out of Rs. 645 lakhs released during the first year (1983-84) under World Bank-Aided Programme could be utilised. In between stood Andhra Pradesh and West Bengal with under-utilisation to the extent of 25 per cent and 23 per cent respectively, followed by Maharashtra 12 per cent and Rajasthan 9 per cent. In Maharashtra Civil works under the Programme suffered as land for construction of quarters for Social Forestry Staff could not be procured in time. In other States funds released were reportedly utilised in full. The information was not available for Jammu & Kashmir and Orissa.

3.46 *Timeliness of sanctioning of funds* : Five States, Bihar, Gujarat, Maharashtra, Tamil Nadu and West Bengal reported no problems with regard to timely sanction of funds for Social Forestry Programme. In Andhra Pradesh there was no uniform flow of funds throughout the year. Major proportion of the funds were available during third and fourth quarter of the year which affected supply of inputs with regard to quality of materials. In Assam implementation of the Programme suffered due to delayed release of funds. In five States, Himachal Pradesh, Karnataka, Madhya Pradesh, Uttar Pradesh & Rajasthan funds for SF Programme were released in time, whereas Social Forestry schemes under National Rural Employment Programme (NREP), Drought Prone Area Programme (DPAP) and Rural Landless Employment Guarantee Programme (RLEGP) suffered due to delayed release of funds by District Rural Development Agency (DRDA). In Madhya Pradesh delayed release of funds by DRDA posed difficulty for preparatory work. In Himachal Pradesh funds were sanctioned after planting season was over. In Uttar Pradesh funds were available in April and May when hardly any time was left for raising the Nurseries. Funds for raising the Nurseries should be made available by December/January at the latest. In Rajasthan the Programme suffered due to late re-

lease of funds under Command Area Development Project. The Evaluation Study tend to show that at the field level the Programme suffered either from delayed release or from inadequacy of funds. Since raising of seedlings in the Nurseries requires elaborate preparatory work, release of funds under SF Programme should be ensured well in advance.

#### *Coordination Amongst related Departments*

3.47 In no States, barring Andhra Pradesh and Gujarat, guidelines for the functionaries at different levels, specifying how the linkage between SF wing and DRDA at district/divisional levels should be established, were issued by the State Governments. The only guidelines issued stipulated utilisation of 20 per cent NREP and RLEGP funds provided by DRDA in raising seedlings to supplement SF Programme. The Social Forestry Wing had practically no other functional liaison worth mentioning with the DRDA. In Andhra Pradesh forward linkage at the district level was established through the Collector who was Chairman of SF Programme and DRDA, NREP and DPAP at the district level. The linkage helped pooling up men and materials under all these schemes. The DRDA arranged through nationalised banks loans under various subsidy schemes for creating infrastructure like dugwell, pumpsets, water drums for quite a few joint Farming Cooperative Societies of SC/ST and other weaker sections, to whom Government wasteland was allotted for raising plantations. The NREP funds were utilised for maintaining plantations on such allotted wasteland. Loan facilities were also arranged for those engaged in watering, avenue and strip plantations. In Gujarat, all DRDA Directors were given orientation training in Social Forestry. The DRDA provided funds to SF Division for raising Kisan Nurseries. For proper coordination with the DRDA and other agencies supplementing forestry work, an officer of the rank of Dy. Chief Conservator of Forests was posted at the State Headquarters. In Jammu & Kashmir panchayat lands were demarcated at the meetings of district level committee chaired by the District Development Commissioner, for raising of block plantations. As a measure of protection the DRDA & Block authorities provided funds for fencing and for engaging watch and ward staff. In Rajasthan for overall coordination at the district level a committee chaired by the District Collector was set up for planning out SF Programme.

3.48 *Deficiencies in Coordination observed in certain States* : In Kerala attempt by the Forest Department which acted more or less in their own way, in seeking cooperation from the Block officials for distribution of seedlings under Farm Forestry in 1983-84 met with little success, for the Block functionaries failed to ensure proper distribution of seedlings after the same were dumped at the appointed sites. In Tamil Nadu the functionaries of the Social Forestry Wing and Agriculture Department at the grassroots engaged in the implementation of SF Programme and NREP & RLEGP respectively, not only did not cooperate with each other without any feedback of information in either way, but also acted

in their own individualised manner which was not always conducive to smooth working of the Programme. For example, seedlings purchased by the Rural Development Department from the Social Forestry Wing were distributed free under NREP/RLEGP, whereas the Social Forestry Wing realised five paise per seedling (to be reimbursed later) for distribution under Farm Forestry. This system of distribution of seedlings, discriminating one set of beneficiaries against another, had an adverse effect, for people tended to resent this dual distribution policy. In Uttar Pradesh though targets under SF Programme were finalised at the meetings of the DRDA chaired by the Collector, the DFO of the SF Division being not a member of the DRDA, was not involved in the process.

#### *Monitoring and Evaluation*

3.49 The Centrally-Sponsored Scheme of Social Forestry provided for the setting up of a Monitoring and Evaluation Cell to ensure satisfactory implementation of the Programme. In all the States, except Bihar, Monitoring and Evaluation Cell was either created or the existing ones in the State Forest Department strengthened. But its activities, by and large, were confined to the assessment of the Programme through progress reports, except in a few States, where some evaluation studies were conducted.

3.50 *Evaluation of Social Forestry Programme by the States* : Evaluation of the Programme was conducted in a few States by the Monitoring and Evaluation Cell created under the Programme as well as by other outside agencies. The scope and coverage of the evaluation study, however, varied widely among the States. In Madhya Pradesh an evaluation carried out in October-November 1983, jointly by Government of India, USAID and the State team *inter-alia* recommended that there should be greater emphasis on extension training for the field staff as well as for the panchayat representatives and village youth, and that a system of distribution of produce should be evolved, giving preference to the rural poor. The study was, however, confined to Externally-Aided SF Programmes in the State. In Rajasthan the Forest Department conducted an Evaluation of Farm Forestry Programme in 1983 which revealed that the survival rate of Farm Forestry varied by and large from 40 per cent to 50 per cent in most of the districts and that the beneficiaries were generally motivated to adopt plantation after observing the plantations raised by fellow farmers. No fencing could be done by the farmers to protect plants against grazing by animals due to the cost involved. Insecticides and fertilisers were, by and large, not used as a result of which plant mortality was very high. Proper planting practices were also not known to the farmers in general. In other words, the evaluation study focussed attention on not very encouraging performance under Farm Forestry in the State.

3.51 In Tamil Nadu Evaluation Study conducted by several agencies *inter-alia* recommended that (a) to ensure continuing participation in the Programme

by the people policy support and field strategy would have to be properly designed, (b) social control of public plantation and regulatory measures would have to be strengthened for protection of community plantation and (c) there was need for reorientation towards the service motive from the regulatory work ethos on the part of the field functionaries. The evaluation studies were however, conducted in respect of Central Sector scheme of Social Forestry Programme only. In West Bengal interim report of the Evaluation of SF Programme in the State brought out in December 1983, showed that (i) while Farm Forestry Programme had been successful in so far as it was possible to identify the target groups, establish communication and create confidence, especially in Purulia, Birbhum, Bankura, Burdwan and Midnapur districts, the programme made little impact in intensively cultivated 24 parganas, Howrah and Hooghly districts, due to non-availability of infrastructural facilities such as extension workers, incremental staff etc. in the initial years, (ii) the performance of the village wood lots was not upto the mark due to (a) non-availability of community land in the State, (b) lack of suitable local leadership, (c) lack of adequate extension coverage (d) lack of community feeling among the villagers who apprehended that the individual share of benefit would be meagre and benefits might be cornered by influential persons in the community and, (iii) survival rate of plants on strip plantations was much less than that in case of other plantations, due to grazing by animals.

#### *Role of Voluntary Agencies in Social Forestry*

3.52 The herculean task of Social Forestry was sought to be achieved by mobilising support from all sections of the community, schools, farmers, panchayats and voluntary organisations, both in extension and motivation work as well as in raising the Nurseries for distribution of seedlings. The Evaluation Study revealed that, except in a few cases, involvement of the voluntary agencies in Social Forestry Programme was almost minimal. In about 20 out of 32 (62 per cent) selected Divisions no involvement of the voluntary organisations in Social Forestry Programme was perceived. In other selected Divisions where voluntary organisations were associated with Social Forestry Programme in some form or other, their involvement could be summarised as follows :—

(a) Motivation work—In Sangareddy, Baroda and Nasik—A few voluntary organisations took active part in creating awareness among the public about tree plantations and its protection.

(b) Distribution of seedlings—In Sangareddy, Dumka, Baroda, Cannanore, Ahmednagar and Bolangir Divisions, voluntary organisations were also involved in the distribution of seedlings in addition to the implementing agencies. In Kerala, where there were no village level workers for motivation and extension work for SF Programme, several voluntary agencies were associated with the Programme at grass-root levels, for seedlings distribution.

(c) Raising of Nurseries for distribution of seedlings—In Baroda and Ahmednagar Divisions a few



voluntary organisations raised Nurseries in the compound of their premises for distribution. In Almora Division educational Institutions and social organisations like Nehru Yuvak Kendra did plantation on public land under guidance of the SF Department. In Lakhimpur Kheri Division one industrial Unit, a sugar mill, adopted a group of villages for Social Forestry Programme. Seedlings raised in the land owned by the sugar mill were supplied to the farmers at 10 paise per plant, besides fertiliser at subsidised rate.

**3.53 Need for enlisting support and active participation of voluntary agencies :** As field investigation revealed, the strategies followed were primarily aimed at achieving the targets under the Social Forestry Programme through the official implementing agencies. The programme failed to motivate voluntary organisations to get involved in the Programme at the grass-roots to the desired extent. Perhaps this was mainly due to excessive bureaucratisation of this peoples' programme in the hands of the official agencies which failed to kindle a glimmer of hope in the minds of rural people to the desired extent. Obviously, performance under the Programme, at least in the matter of raising block Plantations on community/panchayat land, lagged far behind expectations. The Programme was too challenging for any single agency to handle effectively, however efficient and resourceful they might be. The capacity of the dynamic voluntary organisations in carrying out the specific tasks that could be assigned to them should be assessed well in advance. They may also be encouraged to adopt a group of villages, depending upon their individual capacity, for implementation of Social Forestry Programme. It is more often than not observed that the voluntary organisations have the capacity to mobilise rural youth under their banner for large scale tree plantation programme, as was witnessed during the last Kumbh Mela at Hardwar when Nehru Yuvak Kendra organised tree plantations on the hill slopes on a massive scale through active participation of the pilgrims.

*Lack of aftercare measures by the implementing agencies*

**3.54** The Evaluation Study revealed, as shown in a subsequent chapter, that the functionaries engaged in Social Forestry Programme at grassroot levels did not attend to after-care and other followup measures to an appreciable extent in States like Andhra Pradesh, Assam, Kerala, Orissa and Uttar Pradesh. As a result, higher plant mortality, especially under Farm Forestry, could largely be attributed to lack of follow-up measures after the seedlings were distributed. Given the requisite training and resources, it would be comparatively easier for the voluntary organisations to take after-care measures after seedlings were distributed.

*Role of Block Agency in Social Forestry*

**3.55** One of the weak links of Social Forestry Programme is the absence of a strong and efficient

organisation, fully acquainted with the problems of rural people at grass-root levels to motivate people to adopt Social Forestry. Except in a few cases here and there, the Block agency did not prove to be very effective in disseminating message of Social Forestry to villagers. Also the role of Block agency in persuading village panchayats to take initiative in raising block plantations on panchayat/community land was practically negligible. This is evident from the fact that out of 256 selected villages block plantations on community land or village forestry were raised in 23 villages only. The programme was still considered as the primary responsibility of the Social Forestry Organisation or the Forest Department and, by and large, was being executed in highly centralised manner with not much involvement of the rural development agencies at the divisional/range levels.

*Need for inter-departmental coordination*

**3.56** The volume of work envisaged under Social Forestry Programme is too stupendous for any single organisation to handle efficiently. There should be an integrated approach to the programme of Social Forestry involving all concerned departments, especially Forests, Development and Revenue at different levels for synergetic action. For effective coordination among the concerned departments and for the proper implementation of the Programme target setting under the Programme should be left to the District Level Committee on Social Forestry headed by the Collector. The Committee should be reconstituted as an integrated administrative machinery which should be responsible for fulfilment of targets under various components of the Programme for which technical support, extension and motivation work should be provided by the SF Organisations. The Block agency, especially its staff of the grass-roots, should also be involved as far as possible in extension, motivation and follow-up work. To enlist peoples' participation the Programme at grass-root levels, instead of being made the sole responsibility of any particular department, should be implemented through Block and village level Committees. This being a peoples' programme their participation and involvement at every level, right from selection of areas and selection of species to actual plantation work, should be ensured to achieve success.

**3.57.** The extension machinery needs to be geared up to educate the people about aims and objectives of the Programme. As womenfolk in the rural areas are also engaged in procurement of fuelwood and fodder, women motivators should be recruited to enlist their participation. Proper follow-up measures like advice on after-care, watering, plant protection measures etc. should be the responsibility of the implementing agencies in close collaboration with the Block agency for at least two years after distribution of seedlings to the farmers. Incentives in the form of fertilizers and insecticides should also be provided as far as possible alongwith free distribution of seedlings to small, marginal farmers and other weaker sections of the community,



## Statement showing Organisational set up for implementation of

Separate Organisation created for implementing Externally aided and Centrally sponsored Social Forestry Programme

Separate Organisation created for Centrally sponsored Social Forestry Programmes including Rural Fuelwood plantation Programmes

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## 1. Andhra Pradesh

During 1983-84, twelve Social Forestry Divisions under Externally aided CIDA (Canada) Social Forestry Project, eight Divisions under Rural Fuelwood Plantation Programme (RFP) and two under Drought Prone Area Programme (DPAP) were created in the Forest Department with separate administrative staff from top to bottom viz. at the State, circle and divisional levels. The Principal Chief Conservator of Forests head the Social Forestry (SF) Organisation with one Chief Conservator of Forests under him who directly dealt with Social Forestry Programme. SF programme in the State was implemented by the regular territorial divisions of the Forest Department during 1980-81 and 1981-82. Separate Social Forestry Divisions were initiated in 1982-83 with the posting of working Plan. Officer in the area to assess the potential and to prepare perspective plan for implementation. The above divisions were created for implementation of all SF programmes, except in reserved forest areas where territorial divisions implemented plantation work.

## 2. Kerala

The entire Social Forestry work viz. World Bank assisted programme, Centrally sponsored RFP and other SF schemes were implemented by SF Divisions separately created in the Forest Department under World Bank Project, headed by Chief Conservator of Forests (SF Projects). The Divisions implemented other SF Schemes under Rural Landless Employment Guarantee Programme (RLEGP), National Rural Employment Programme (NREP) and small and marginal farmers in areas under their control.

## 3. Maharashtra

All Social Forestry Programmes in the State were consolidated in 1981 and placed under charge of new Horticulture and Social Forestry Department headed by a Secretary, separate from Forest Department. The principal level officer responsible for supervision of field activities was Director of Social Forestry of the Status of Chief Conservator of Forest. The H&SF Department was primarily responsible for implementation of Externally aided USAID Social Forestry Project with staff posted at various levels. The Department was also responsible for implementing other Centrally sponsored Social Forestry Schemes including RFP. The staff appointed under any Social Forestry Programme implemented all Social Forestry Schemes in their jurisdiction, in addition to their normal work in identified villages under Externally aided Social Forestry Programme.

## 1. Haryana

Haryana Forest Development Board set up in 1982 implemented Centrally sponsored SF scheme of RFP and other State sponsored schemes. Separate set of staff was provided for the above schemes, w.e.f. 1985-86. Haryana Forest Dev. Board implemented all Social Forestry Programmes including Externally aided and special programmes like RFP, DPAP, etc.

## 2. Assam

The newly created Social Forestry wing comprising 15 SF Divisions alongwith 3 Afforestation Divisions under Chief Conservator Forests in the Forest Department implemented all SF Schemes including RFP.

## 3. Bihar

The State Government created five SF Divisions in the State for implementing various social forestry and other afforestation schemes including RFP. Such divisions were exclusively responsible for implementation of Social Forestry Programmes only.

## Social Forestry Programmes in the States

Separate Organisation created for implementing Externally aided Social Forestry Project	Regular territorial divisions of Forest Department implemented Externally aided Project.	Regular territorial divisions of Forest Department implemented Centrally sponsored schemes of Rural Fuelwood Plantation (RFPW) and other Social Forestry Schemes.
3.	4.	5.
<p><b>1. Gujarat</b></p> <p>The Extension Forestry Wing set up in the Forest Department in 1969, subsequently renamed as Social Forestry Wing headed by a Chief Conservator of Forests implemented the world Bank aided Social Forestry Project.</p>	<p><b>1. Karnataka</b></p> <p>In 32 Territorial Divisions in the State not covered by specially created SF Divisions, Externally aided SF Project was implemented, though in a scattered way.</p>	<p><b>1. Assam</b></p> <p>Prior to the creation of separate Social Forestry Divisions Social Forestry schemes including RFPW, were implemented by the territorial forest divisions. With the setting up of separate SF division the work was gradually being taken over by them.</p>
<p><b>2. Haryana</b></p> <p>The State Forest Department with separate staff from top to bottom implemented the World Bank aided SF Project started in July 1982 and covered the whole state.</p>	<p><b>2. West Bengal</b></p> <p>Territorial Forest Divisions in all Divisions in all districts were engaged in SF programme under Externally aided Social Forestry Project, including reforestation of degraded forests.</p>	<p><b>2. Bihar</b></p> <p>RFPW was launched in all districts in the State by regular territorial divisions of the Forest Department. No staff at the higher level was sanctioned under the scheme. Some staff like Foresters and Forest Guards were sanctioned under the scheme at lower formations in eight districts.</p>
<p><b>3. Jammu and Kashmir</b></p> <p>The Externally aided SF Project was implemented by SF Divisions separately created in the Forest Department, headed by a Project Director of the rank of Additional Conservator of Forests. The Centrally sponsored RFPW was not implemented in the State. SF schemes under NREP was implemented by Development Departments.</p>		<p><b>3. Gujarat</b></p> <p>RFPW was implemented in forest areas in seven districts by regular forests officials in addition to normal forestry operations.</p>

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#### 4. Tamil Nadu

Seventeen separate Social Forestry Divisions were created in the Forest Department under Addl. Chief Conservator of Forests (SF) for implementing Externally aided SIDA (Sweden) SF Project and four Social Forestry Divisions for implementing Centrally sponsored SF scheme of RFWP with separate staff posted at different levels. Area of jurisdiction of SF Divisions were not always conterminous with the revenue districts. SF works under IRDP, NREP and RLEGP were implemented by Rural Development Department.



3.

4.

5.

#### 4. Karnataka

The World Bank aided SF project was implemented by specially created eight SF Divisions under direct charge of Addl. Chief Conservator of Forests in the forest department with separate staff provided. The SF Divisions were created in dry zones having potential for concentrated works.

#### 5. Madhya Pradesh

The Directorate of Social Forestry created under Externally aided USAID Social Forestry Project in 1981-82 covered 29 districts in the State wherein separate Social Forestry Divisions were set up for implementing Externally aided SF project.

#### 6. Orissa

In 1983 a separate Social Forestry Directorate under Forest Department headed by one Director of the rank of Addl. Chief Conservator of Forests was created for implementing SIDA (Sweden) aided SF Project. The Directorate was yet to start functioning with full contingent of staff.

#### 7. Uttar Pradesh

Twenty nine SF Divisions under administrative Control of Chief Conservator of Forests (SF) in the Forest Department were created under World Bank aided SF Project which covered entire Gangetic plain, comprising 42 districts, devoid of forest cover. The officers posted in the divisions implemented all SF schemes in their respective areas, though funded from different sources, in addition to normal territorial work. Separate staff for specific schemes were sanctioned and posted in specific areas where such schemes were in operation.

#### 8. West Bengal

Separate Social Forestry Wing in the Forest Department was created after 1983 with 6 SF divisions for implementation of Externally aided Social Forestry Programme of farm forestry, strip plantation and village wood lot. The area of operation of SF Divisions was mainly non-territorial forest areas.



#### 4. Himachal Pradesh

Forest Department implemented Centrally sponsored Social Forestry schemes including RFWP, alongwith the other State schemes through regular territorial divisions. w.c.f. 1985-86 all Social Forestry Schemes except RFWP, were amalgamated under the World Bank aided National SF (UMBRELLA) Project under overall coverage of one Assistant Conservator of Forests and executed through regular territorial forest division.

#### 5. Karnataka

Forest Department implemented RFWP in eight districts through territorial divisions where 16 Range Forest Officers and 52 Foresters were appointed under the programme.

#### 6. Madhya Pradesh

In ten districts Centrally sponsored RFWP was implemented by regular territorial/plantation divisions of Forest Department, in Madhya Pradesh SF schemes under NREP were executed through USAID Project.

#### 7. Orissa

Forest Department implemented Central and State sector SF schemes including RFWP through territorial/afforestation divisions. During 1983-84 pre-plantation work under SIDA assisted SF project was taken up by Forest Department. SF Schemes under NREP, IRDP and DPAP were implemented by Forest Department in cooperation with Horticulture & Soil Conservation Department.

#### 8. Rajasthan

Social Forestry Programmes including Centrally sponsored RFWP were implemented by Territorial Forest Divisions in addition to normal forestry operations. Some of the Ranges under Forest Divisions were designated as Social Forestry Ranges and reserved exclusively for Social Forestry Work.

#### 9. Uttar Pradesh

Centrally sponsored scheme of RFWP was implemented since 1981-82 in the remaining 19 districts in the State not covered by the Externally aided SF Project, by regular territorial functional Divisions of Forest Deptt. Additional staff support was provided in some of those districts for RFWP. Later on some districts were covered by both Externally aided and Centrally sponsored SF schemes on account of common scope of operation under both the Programmes.


Other Centrally sponsored scheme of integrated soil water and tree conservation in the Himalayan Region was implemented in the hill districts in the State as a effective step to stop soil erosion in hill areas.

#### 10. West Bengal

Centrally sponsored RFWP was in operation in six districts by territorial Forest Divisions with no extra staff

## Organisational Strength (Sanctioned and in position) of SF Programme and other allied schemes in the States

Name of State	Name of Programme under which staff was sanctioned & posted	Designationwise strength of staff sanctioned & in position																Forester
		PCCF/CCF Adl. CCF		C.F.		D.C.F.		A.C.F.		R.F.O.		Dy. RFO						
1.	2.	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	16.
1. Andhra Pradesh	RFWP	—	—	2	2	9	9	—	—	33	N.A.	64	N.A.	64	N.A.	64	N.A.	N.A.
	Externally aided Programme (SIDA)	3	3	4	4	12	12	2	2	54	N.A.	52	N.A.	52	N.A.	156	N.A.	N.A.
	N.R.E.P.	—	—	—	—	—	—	—	—	44	44	—	—	—	—	176	176	176
	DPAP	1	1	1	1	3	3	—	—	18	18	11	11	—	—	41	41	41
2. Assam	S. F. Programme	1	1	3	1	20	10	7	7	108	63	—	—	—	—	N.A.	158	158
3. Bihar	S. F. Programme@	1	1	—	—	5	5	—	—	16	16	—	—	—	—	52	52	52
	R.F.W.P.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	N.A.	N.A.
4. Gujarat	Externally aided Programme	1	1	8	8	26	26	78	52	437	368	—	—	—	—	1454	1245	1245
5. Haryana	S. F. Programme	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Himachal Pradesh	S.F. Programme	1	1	2	2	12	5	10	13	32	31	—	—	—	—	120	98	98
7. J. & K.	S. F. Programme	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Karnataka	Externally aided SF Programme	1	1	1	1	9	9	15	15	90	90	—	—	—	—	175	175	175
	D.A.A.P.	—	—	—	—	—	—	—	—	13	13	—	—	—	—	76	76	76
	RLEGP	—	—	—	—	—	—	—	—	3	3	—	—	—	—	54	54	54
9. Kerala	Externally aided and other SF Programmes	1	1	1	1	20	20	—	—	28	28	—	—	—	—	133	133	133
10. Madhya Pradesh	Externally aided SF Programme	2	2	8	8	30	30	27	27	174	153	—	—	—	—	377	273	273
11. Maharashtra	Externally aided Programme	1	1	7	7	32	32	65	62	271	271	541	541	—	—	—	—	—
	RFWP	—	—	—	—	—	—	—	—	10	10	20	20	—	—	—	—	—
	NREP	—	—	—	—	—	—	—	—	—	—	100	100	—	—	—	—	—
	RLEGP	—	—	—	—	—	—	—	—	—	—	82	82	—	—	—	—	—
	Western Ghats Dev. Programme	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Central Nursery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12. Orissa	Externally aided SF Programmes (G)	1	1	3	3	16	12	18	10	90	90	—	—	—	—	430	42	42
										(S)	(S)						Set up in 2'84	G
13. Rajasthan	SF Programmes (H)	3	3	7	7	36	36	35	35	160	160	20	20	20	20	720	720	720



Annex 3.2—concl.

1.	2.	S	P	S	P	S	P	S	P	S	P	S	P	S	P
3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.		
14. Tamil Nadu	Externally aided SF Programme RFP	1	1	6	6	19	19	—	—	115	115	—	—	557	557
		—	—	—	—	5	5	—	—	25	25	—	—	120	120
15. Uttar Pradesh	Externally aided SF Programme RFP	1	1	5	5	29	29	25	25	133	133	453	453	550	550
	RVP in the Catchment of Ranganga	—	—	—	—	—	—	5	5	6	6	18	18	—	—
	Maratila Dam Project	—	—	—	—	2	2	5	5	11	11	54	54	—	—
16. West Bengal	Externally aided	1	1	2	2	7	7	6	—	34	32	—	—	107	88

@Staff posted in 5 SF Divs. In other parts of the State of Bihar SF Programme was implemented by territorial forest divisions.

(D) Van Vistar Adhikary.

(E) Van Vistar Sahayak.

PCCF = Principal Chief Conservator of Forests

Adl. CCF = Additional Chief Conservator of Forests.

CF = Chief Conservator of Forests.

DCF = Deputy Conservator of Forests

ACF = Asst. Conservator of Forests

RFO = Range Forest Officer

Dy. RFO = Deputy Range Forest Officer

(H) Regular Forest Officials involved in SF work in addition to normal Forestry work—No additional staff for SF Programme were provided.

(S) Forest Extension/SF Supervisors.

1	2	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P
14. Tamil Nadu	Externally aided SF Programme	—	—	7	7	—	—	N.A.	N.A.	28	28	28	28	18	17	410	410	103	103
	RFWP . . . . .	—	—	1	1	—	—	—	—	4	4	4	4	—	—	57	57	9	9
15. Uttar Pradesh	Externally aided SF Programme	—	—	—	—	—	—	—	—	3	3	3	3	—	—	512	512	1728	1728
	RFWP . . . . .	56	56	—	—	—	—	—	—	—	—	—	—	—	—	31	31	100	100
	RVP in the Catchment of Ram-ganga . . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Matatila Dam Project . . . . .	5	5	—	—	—	—	—	—	—	—	—	—	—	—	7	7	3	3
16. West Bengal	Externally aided	—	—	—	—	1	—	1236	408	—	—	—	—	—	—	108	73	125	50

(A) In addition one XEN 4 Dy. Engineers.

& 5 J. Es. were posted for SF work

(S) Lady Social Workers

(C) No Separate SF Deptt. created. SF Programme was implemented through territorial Dyn. However at the State Level one post of CF (SF) was created to assist CCR.

(F) Van Sewak



## Strength of staff sanctioned and in position in the selected Divisions

State	Status of the selected divisions	Major Operations	Officers and staff (sanctioned & posted)													Remarks		
			DFO			AFO			Range Forest Officer			Dy. RFO			Forester & Others			
			S	P		S	P		S	P		S	P		S		P	
1.	2	3	4	5	6	7	8	9	10	11	12	13						
1. Andhra Pradesh	1. Nellore SF Division	SF Programme	1	1	—	—	5	5	7	6	12	12						
	2. Sangareddy SF Div.	Do.	1	1	—	—	4	4	8	8	8	8						
		NREP	—	(1)	—	—	1	1	1	—	—	4	4					
2. Assam	1. N. Kamrup SF Div.	SF Programme	1	1	—	—	4	4	—	—	—	6						
			(1)	(1)	—	—	—	(4)	—	—	—	(6)						
	2. Sibsagar SF Div.	Do.	N.A.															
3. Bihar	1. Dumka Territorial Div.	Regular Forestry operations including SF	1	1	1	1	5	5	—	—	24	24						
	2. Gaya afforestation Div.	Do.	1	1	1	1	5	5	—	—	16	16						
		RFWP	—	—	—	—	—	—	—	—	4	4						
4. Gujarat	1. Baroda extension Div.	S.F. Programme	1	1	2	2	19	19	—	—	77	77						
	2. Kutch	Do.	(1)	(1)	—	(2)	(19)	(19)	—	—	(77)	(77)						
			1	1	2	2	23	22	—	—	71	71						
5. Haryana	1. Kurukshetra territorial Division	(i) Regular Forestry operations including SF	1	1	1	1	4	4	1	1	8	8						
		(ii) Plan scheme for extn. forestry	—	—	—	—	—	6	6	6	1	1						
		(iii) Plan scheme for quick growing of species	—	—	—	—	—	—	—	—	1	1						
		(iv) Plan Scheme for degraded forests	—	—	—	—	2	2	—	—	2	2						
	2. SF Div.*	SF Programme	1	1	—	—	3	3	3	3	7	9				*Separate Div. created in 8/84 under externally aided SF Programme		

## Strength of staff sanctioned in position in the selected divisions

State	Status of the selected divisions	Major Operations	Officer and staff (sanctioned & posted)												Remarks
			Forest Guard etc.		Draftsman/ Surveyor		Motivator/ Forest Extn. Workers		Supporting/ staff (Ministerial)		Supporting staff others				
			S	P	S	P	S	P	S	P	S	P	S	P	
1.	2.	3.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.		
1. Andhra Pradesh	1. Nellore SF Division	SF Programme	—	—	1	1	—	—	4	4	3	3			
	2. Singaraddy SF Div.	Do.	—	—	1	1	—	—	4	3	4	4		Trained in SF	
		NREP	—	—	—	—	—	—	—	—	—	—	—		
2. Assam	1. N. Kamrup SF Div.	SF Programme	—	18	—	—	—	—	—	4	—	—	11		
				(18)											
	2. Sibsagar SF Div.	Do.												N.A.	
3. Bihar	1. Dumka territorial Div.	Regular Forestry operations including SF	124	124	N.A.	N.A.	—	—	N.A.	N.A.	N.A.	N.A.			
	2. Gaya afforestation Div.	Do.	75	75	N.A.	N.A.	—	—	N.A.	N.A.	N.A.	N.A.			
		RFP	24	24	—	—	—	—	—	—	—	4	4		
4. Gujarat	1. Baroda extension Div.	SF Programme	44	44	1	1	—	—	26	26	9	9			
				(44)											
	2. Kutch Do.	Do.	52	52	1	1	—	—	28	26	17	15			
5. Haryana	1. Kurukshetra territorial Division	(i) Regular Forestry operations including SF	51	51	N.A.	N.A.	—	—	N.A.	N.A.	N.A.	N.A.			
		(ii) Plan Scheme for extn. forestry	10		—	—	—	—	—	—	—	—			
		(iii) Plan scheme for quick growing of species	12	12	—	—	—	—	—	—	—	—			
		(iv) Plan scheme for degraded forests	—	—	—	—	—	—	—	—	—	—			
	2. SF Division	SF Programme	31	26	N.A.	N.A.	—	—	N.A.	N.A.	N.A.	N.A.		N.A.	

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
6. Himachal Pradesh	1. Nurpur Forest Div.	Regular forestry operations including SF	1	1	1	1	5	5	25	24	—	—
7. Jammu & Kashmir	1. Anantnag SF Division	SF Programme	1	1	1	—	3	3	—	—	12	10 (2)
8. Karnataka	1. Mandya territorial Div.	(i) Regular forestry operations including SF	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
		(ii) MNP	—	—	1	1	6	4	—	—	10	8 (8)
		(iii) RFWP	—	—	—	—	2	2	—	—	8	8 (8)
	2. Gulbarga	(i) Regular forestry operations including SF	1	1	1	1	9	3	—	—	23	14
		(ii) RFWP	—	—	—	—	2	2	—	—	8	8
	(A) 3. SF Div.	(i) SF Programme	1	1	1	1	—	5	—	—	—	— (A) created in March 84
		(ii) MNP	—	—	—	—	4	4	—	—	8	—
9. Kerala	1. Cannanore SF Division	SF Programme	—	—	1	1	1	1	—	—	9	7
	2. Trivandrum SF division	Do.	—	—	1	1	5	5	—	—	21	20
10. Madhya Pradesh	1. Jabalpur territorial Div.	Regular forestry operations including SF Programme	1	1	3	3	17	17	9	9	54	66 (66)
	2. Raipur Do.	Do.	1	1	3	3	5	5	18	18	60	60
	3. Ratlam plantation Div.	Do.	1	1	1	1	6	5	2	2	26	24
	4. Ratlam SF Division	SF Programme (B)	1	1	1	1	6	5	13	8	—	—
11. Maharashtra	1. Ahmednagar SF Div.	SF Programme	1	1	2	2	10	10	—	—	20	19
		RFWP (NT)	—	—	—	—	1	1	—	—	2	2
		Central Nursery	—	—	—	—	—	—	—	—	1	1
		RLEGP	—	—	—	—	—	—	—	—	10	5 (27)
		NREP	—	—	—	—	—	—	—	—	6	—
	2. Nasik SF Div.	SF Programme	1	1	2	2	10	10	—	—	20	20 (20)
	3. Osmanabad Do. v	Do.	1	1	2	2	10	10	—	—	20	20
12. Orissa	1. Bolangir	RFWP & other SF scheme	1	1	—	—	5	5	—	—	15	15 (12)
		Edu. & Trg.	—	—	—	—	2	1	1	—	7	7

(B) created in 10/82 under externally aided SF Programme.

1.	2.	3.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
6. Himachal Pradesh	1. Nurpur Forest Div.	Regular forestry operations including SF	110	105	N.A.	N.A.	—	—	12	12	10	10	
7. Jammu & Kashmir	1. Anantnag SF Division	SF Programme	19	27 (27)	2	—	115	130	7	4	13	12	
8. Karnataka	1. Mandya territorial Div.	(i) Regular forestry operations including SF	N.A.	N.A.	N.A.	N.A.	N.A.	—	N.A.	N.A.	N.A.	N.A.	
		(i) MNP	—	—	—	—	15	—	—	—	—	—	
		(iii) RFWP	—	—	—	—	—	—	—	—	—	—	
	2. Gulburga Forestry Div.	(i) Regular forestry operations including SF	80	79	N.A.	N.A.	—	—	N.A.	N.A.	N.A.	N.A.	
		(ii) RFWP	—	—	—	—	—	—	—	—	—	—	
	3. SF Div.	(i) SF Programme	—	—	—	—	—	—	—	—	—	—	
		(ii) MNP	—	—	—	—	—	—	—	—	—	—	
9. Kerala	1. Cannanore SF Divisions	SF Programme	—	—	—	—	—	—	7	7	5	5	
	2. Trivandrum SF Division	Do.	—	—	—	—	—	—	N.A.	N.A.	N.A.	N.A.	
10. Madhya Pradesh	1. Jabalpur territorial Division	Regular forestry operations including SF Programme	252	252 (N.A.)	1	1	—	—	31	33	18	17	
	2. Raipur Do.	Do.	165	165	—	—	—	—	N.A.	N.A.	N.A.	N.A.	
	3. Ratlam Plantation Div.	Do.	63	56	2	2	—	—	16	13	55	5	
	4. Ratlam SF Div.	SF Programme	—	—	1	1	42	39	12	9	14	9	
11. Maharashtra	1. Ahmednagar SF Div.	SF Programme	5	5	3	3	—	—	18	17	11	11	
		RFWP (NT)	3	3 (9)	—	—	—	—	1	1	2	2	
	Central Nursery		1	1	—	—	—	—	—	—	—	—	
	RLEGP		—	—	—	—	—	—	—	—	—	—	
	NREP		—	—	—	—	—	—	—	—	—	—	
	SF Programme		—	—	—	—	—	—	N.A.	N.A.	N.A.	N.A.	
	Do.		30	30	—	—	—	—	N.A.	N.A.	N.A.	N.A.	
12. Orissa	1. Bolangir RFWP	RFWP & other SF scheme	30	30 (19)	—	—	—	—	9	9	11	11	
	Edu. & Trg.		—	—	—	—	—	—	—	—	—	—	

Annex 3-3 Conclld.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
	2. Cuttack Coastal shelter belt afforestation Div.	SF and other afforestation Programme	1	1 (1)	2	2 (2)	5	9 (9)	1	1 (1)	16	15 (15)
13. Rajasthan	1. Bharatpur territorial Division	Regular Forestry operations including SF Programme	1	1 (1)	2	2 (2)	7	7 (7)	2	2 (2)	41	40 (40)
	2. Udaipur Do.	Do.	1	1	1	1	7	7	2	2	55	49
14. Tamil Nadu	1. Chingleput RFWP Div.	SF Programme	1	1 (1)	—	—	6	5 (2)	—	—	30	29 (25)
	2. Krishnagiri Do.	Do.	1	1	—	—	6	6	—	—	30	30
15. Uttar Pradesh	1. Almorza Forest Division	Regular Forestry operations including SF Programmes	1	1 (1)	2	2 (2)	6	6 (6)	10	10 (10)	28	28 (28)
	2. Div. Jhansi Do.	Do.	1	1	3	3	9	9	13	17	43	33 (33)
	3. Kheri Do.	Do.	1	—	2	2	7	6	8	7	31	29
16. West Bengal	1. Bankura territorial Div.	Do.	1	—	2	2	7	6	8	7	31	29
	2. Midnapur Do.	Do.	2	1	2	1	16	16	72	69	—	—

@ Regular as well as Social Forestry Training imparted to the number of personnel shown in brackets.

DFO—Divisional Forest Officer

AFO=Asst. Forest Officer

Dy. RFO=Deputy Range Forest Officer.

1.	2.	3.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
	2. Cuttack Coastal shelter belt afforestation Div.	SF and other afforestation programmes	46	65 (N.A.)	—	—	—	—	10	9	12	13
13. Rajasthan	1. Bharatpur territorial Div.	Regular Forestry operations including SF Programme	133	131 (N.A.)	1	1	—	—	14	14	6	4
	2. Udaipur	Do.	102	81 (N.A.)	1	1	—	—	16	15	8	8
14. Tamil Nadu	1. Chingleput RFWP Div.	SF Programmes	—	—	1	1	62	62	5	5	12	11
	2. Krishnagiri	Do.	—	—	1	1	81	81	4	4	11	11
15. Uttar Pradesh	1. Almora Forest Division	Regular forestry operations including SF Programmes	121	121 (90)	2	2	—	—	23	23	7	7
	2. Jhansi	Do.	135	125	N.A.	N.A.	—	—	N.A.	N.A.	14	14
	3. Kheri	Do.	76	68	N.A.	N.A.	—	—	N.A.	N.A.	4	3
16. West Bengal	1. Bankura territorial Div.	Do.	—	—	—	—	—	—	—	—	—	—
	2. Midnapur	Do.	190	182	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

## Yearwise distribution of seedlings by the selected nurseries

State	Division	Range	Area in hec.	1980-81			1981-82		
				A	B	C	A	B	C
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh	1. Nellore	(i) Atmakur	0.50	—	—	—	—	—	—
		(ii) Kavali	1.00	30	30	10.00	70	70	100.00
	2. Sangareddy	(i) Medak	0.40	—	—	—	—	—	—
		(ii) Sadasivapet	1.00	—	—	—	—	—	—
	Total		2.90	30	30	100.00	70	70	100.00
2. Assam	1. North Kamrup	(i) Bata Bari Range (Masulpur)	1.00	7	0.3	0.42	16	10	62.50
		(ii) Bata Bari (Nursery)	1.00	—	—	—	—	—	—
	2. Sibsagar	(i) Sonari	1.50	—	—	—	—	—	—
		(ii) Sibsagar	1.70	—	—	—	7	6	85.71
	Total		5.20	7	0.3	0.42	23	16	69.57
3. Bihar	1. Dumka	(i) Godda Hizla	0.20	—	—	—	—	—	—
		(ii) D Birla West	0.40	—	—	—	—	—	—
	2. Gaya	(i) Aurangabad	1.50	—	—	—	—	—	—
		(ii) Rajgir	1.00	—	—	—	—	—	—
	Total		3.10	—	—	—	—	—	—
4. Gujarat	1. Baroda	(i) Sankhede	0.40	108	103	95.37	519	433	83.43
		(ii) Saveli	0.40	139	111	79.86	209	180	86.12
	2. Kutch	(i) Bhuj	0.50	71	—	—	71	—	—
		(ii) Gadshisha	1.27	56	—	—	93	—	—
	Total		2.57	374	214	57.22	892	613	68.72
5. Haryana	1. Kurukhetra	(i) Kaithal	1.50	186	25	13.44	205	87	42.44
		(ii) Thanesar	2.50	500	160	32.00	450	160	35.56
	Total		4.00	686	185	26.97	655	247	37.71
6. Himachal Pradesh	1. Nurpur	(i) Indora	1.80	106	104	98.11	62	52	0.87
		(ii) Jawali	0.80	11	6	54.55	17	15	88.24
	Total		2.60	117	110	94.02	79	67	84.81
7. Jammu & Kashmir	1. Anantnag	(i) Anantnag	18.60	—	—	—	—	—	—
		(ii) Qazi Gund	5.45	—	—	—	—	—	—
	Total		24.05	—	—	—	—	—	—
8. Karnataka	1. Mandhya	(i) Mandya	8.00	—	—	—	1252	1252	100.00
		(ii) Nagamangla	4.00	—	—	—	210	210	100.00
	2. Gulbarga	(i) Sedam	0.50	—	—	—	—	—	—
		(ii) Yaudgir	0.40	—	—	—	—	—	—
	Total		12.90	—	—	—	1462	1462	100.00

## Yearwise distribution of seedlings by the selected nurseries

State	Division	Range	1982-83			1983-84		
			A	B	C	A	B	C
			11	12	13	14	15	16
1. Andhra Pradesh	1. Nellore	(i) Atmakur	248	243	97.98	275	182	66.18
		(ii) Kavali	1421	1208	85.01	344	120	34.88
	2. Sangareddy	(i) Medak	—	—	—	200	81	40.5
		(ii) Sadasivapet	—	—	—	255	205	80.39
	Total		1669	1451	86.94	1074	588	54.75
2. Assam	1. North Kamrup	(i) Bata bari Range (Masulpur)	9	2	22.22	2	2	100.00
		(ii) Bata Bari (Nursery)	43	30	69.77	56	27	48.21
	2. Sibsagar	(i) Sonari	18	18	100.00	85	85	100.00
		(ii) Sibasagar	9	7	77.78	9	9	100.00
	Total		79	57	72.15	152	123	80.92
3. Bihar	1. Dumka	(i) Godda	40	22	55.00	38	19	50.00
		(ii) Hizla West	122	68	55.74	73	24	32.88
	2. Gaya	(i) Aurangabad	300	300	100.00	300	300	100.00
		(ii) Rajgir	24	24	100.00	26	26	100.00
	Total		486	414	85.19	437	369	84.43
4. Gujarat	1. Baroda	(i) Sankheda	223	220	98.65	200	200	100.00
		(ii) Savali	426	378	88.73	220	119	54.09
	2. Kutch	(i) Bhuj	86	—	—	100	—	—
		(ii) Gadshisha	148	—	—	117	—	—
	Total		883	598	67.72	637	319	50.08
5. Haryana	1. Kurukshetra	(i) Kaithal	313	150	47.92	277	108	38.79
		(ii) Thanesar	550	240	43.64	613	170	27.73
	Total		863	390	45.19	890	278	31.24
6. Himachal Pradesh	1. Nurpur	(i) Indora	104	97	93.27	122	116	95.08
		(ii) Jawali	33	31	93.94	58	50	86.21
	Total		137	128	93.94	180	166	92.22
7. Jammu & Kashmir	1. Anantnag	(i) Anantnag	732	274	37.43	1701	802	47.15
		(ii) Qazigund	50	—	—	167	—	—
	Total		782	274	35.04	1868	802	42.93
8. Karnataka	1. Mandya	(i) Mandya	77	66	85.71	150	144	96.00
		(ii) Nagamangla	200	200	100.00	130	130	100.00
	2. Gulbarga	(i) Sedam	—	—	—	82	50	60.98
		(ii) Yadgir	37	29	78.38	95	73	76.84
	Total		314	295	93.95	457	397	86.87



1	2	3	4	5	6	7	8	9	10
9. Kerala	1. Cannanore	(i) Cannanore	0.26	—	—	—	—	—	—
		(ii) Kasargode	0.25	—	—	—	—	—	—
	2. Trivandrum	(i) Attingal	0.96	—	—	—	—	—	—
		(ii) Trivandrum	0.89	—	—	—	—	—	—
		Total	2.36	—	—	—	—	—	—
10. Madhya Pradesh	1. Jabalpur	(i) Jabalpur	0.50	—	—	—	—	—	—
		(ii) Barhi	0.40	—	—	—	—	—	—
	2. Raipur	(i) Birgudi	2.00	—	—	—	272	261	95.96
		(ii) Singpur	5.00	—	—	—	518	518	100.00
	3. Ratlam	(i) Banja	2.00	—	—	—	—	—	—
		(ii) Ratlam	4.00	—	—	—	—	—	—
		Total	13.90	—	—	—	790	779	98.61
11. Maharashtra	1. Ahmednagar	(i) Akola	2.00	—	—	—	—	—	—
		(ii) Rahuri	6.00	—	—	—	—	—	—
	2. Nasik	(i) Nasik	4.86	—	—	—	—	—	—
		(ii) Sinnar	No Nursery						
	3. Osmanabad	(i) Bhoom	0.02	—	—	—	—	—	—
		(ii) Osmanabad	0.02	—	—	—	—	—	—
		Total	12.90	—	—	—	—	—	—
12. Orissa	1. Bolangir	(i) Bangomunda	0.30	—	—	—	—	—	—
		(ii) Loisinga	0.40	—	—	—	—	—	—
	2. Cuttack	(i) Kendrapada	0.25	—	—	—	—	—	—
		(ii) Kujanga	0.10	—	—	—	—	—	—
		Total	1.05	—	—	—	—	—	—
13. Rajasthan	1. Bharatpur	(i) Alwar	0.90	—	—	—	—	—	—
		(ii) Bharatpur	2.50	—	—	—	8	7	87.50
	2. Udaipur	(i) Bhilwara	10.00	—	—	—	37	0.1	0.30
		(ii) Parashad	N.A.	—	—	—	—	—	—
		Total	13.40	—	—	—	45	7.1	15.78
14. Tamil Nadu	1. Chingelput	(i) Chingelput	0.80	—	—	—	—	—	—
		(ii) Kanchipuram	0.20	—	—	—	—	—	—
	2. Krishnagiri	(i) Dharampuri	1.25	—	—	—	—	—	—
		(ii) Uthangarai	0.20	—	—	—	17	17	100.00
		Total	1.73	—	—	—	17	17	100.00
15. Uttar Pradesh	1. Almora (W)	(i) Almora	2.00	—	—	—	—	—	—
		(ii) Someshwar	0.50	23	—	—	22	—	—
	2. Jhansi	(i) Mauranipur	2.00	39	—	—	53	—	—
		(ii) Moth	6.00	3	—	—	3	—	—
	3. Lakhimpur Kheri	(i) Gola	2.50	—	—	—	—	—	—
		(ii) Mohammadi	2.50	—	—	—	—	—	—
		Total	15.50	65	—	—	78	—	—

1	2	3	11	12	13	14	15	16
9. Kerala	1. Cannanore	(i) Cannanore	—	—	—	767	412	53.72
		(ii) Kasargode	—	—	—	300	45	15.00
	2. Trivandrum	(i) Atingal	475	397	83.58	551	508	92.20
		(ii) Trivandrum	—	—	—	490	309	63.06
		Total	475	397	83.58	2108	1274	60.44
10. Madhya Pradesh	1. Jabalpur	(i) Jabalpur	27	18	66.67	20	20	100.00
		(ii) Barhi	58	58	100.00	15	14	93.33
	2. Raipur	(i) Birgudi	12	11	91.67	6	1	16.67
		(ii) Singpur	0.4	0.2	50.00	1	0.2	20.00
	3. Ratlam	(i) Banja	6	6	100.00	6	6	100.00
		(ii) Ratlam	2	2	100.00	2	2	100.00
		Total	105.4	95.2	89.47	50	43.2	86.40
11. Maharashtra	1. Ahmednagar	(i) Akola	82	—	—	233	—	—
		(ii) Rahuri	—	—	—	610	17	2.79
	2. Nasik	(i) Nasik	—	—	—	947	406	42.87
		(ii) Sinnar	No nursery					
	3. Osmanabad	(i) Bhoom	—	—	—	30	8	26.67
		(ii) Osmanabad	—	—	—	27	10	37.04
		Total	82	—	—	1847	441	23.88
12. Orissa	1. Bolangir	(i) Bangomunda	—	—	—	35	35	100.0
		(ii) Loisinga	57	50	87.72	102	102	100.00
	2. Cuttack	(i) Kendrapada	—	—	—	26	10	38.46
		(ii) Kujanga	41	40	97.56	26	26	100.00
		Total	98	90	91.84	189	173	91.53
13. Rajasthan	1. Bharatpur	(i) Alwar	139	138	99.28	194	194	100.00
		(ii) Bharatpur	139	127	91.37	148	123	83.11
	2. Udaipur	(i) Bhilwara	112	35	31.25	259	93	35.91
		(ii) Parshad	121	23	19.01	170	12	7.06
		Total	511	323	63.21	771	422	54.73
14. Tamilnadu	1. Chengelpet	(i) Chingelpet	—	—	—	77	77	100.0
		(ii) Kanchipuram	68	66	97.06	101	101	100.00
	2. Krishnagiri	(i) Dharampuri	23	23	100.00	111	110	99.10
		(ii) Uthanagarai	24	24	100.00	106	36	33.96
		Total	115	113	98.26	395	324	82.02
15. Uttar Pradesh	1. Almora(W)	(i) Almora	10	—	—	20	—	—
		(ii) Someshwar	54	—	—	31	—	—
	2. Jhansi	(i) Mauranipur	74	29	39.20	41	23	56.10
		(ii) Moth	44	9	20.45	32	5	15.63
	3. Lakhimpur Kheri	(i) Gola	228	221	96.93	234	224	95.73
		(ii) Mohammadi	239	176	73.64	259	235	90.73
		Total	649	435	67.03	617	487	78.93

Annex. 3,4—(Concl'd.)

1	2	3	4	5	6	7	8	9	10
16, West Bengal	1. Bankura (S)	(i) Motgoda	0.50	—	—	—	24	21	87.50
		(ii) Taldangra	0.50	—	—	—	75	72	96.00
	2. Midnapur	(i) Garbeta	0.10	—	—	—	115	115	100.00
		(ii) Midnapur Sadar	0.20	137	137	100.00	361	361	100.00
		Total	1.30	137	137	100.00	575	569	98.96
	Total for the nurseries distributing seedlings to individual farmers			1224	676.3	55.25	4444	3847.1	86.57
	Average per Nursery		1.92	136.0	75.14	55.25	222.2	192.4	86.57

A—Total No. of plants distributed to different agencies (000)

B—No. of plants distributed to individual farmers (000)

C—B as % of A

—Average size based on all 63 selected nurseries.



Annex. 3.4—(Concl.)

1	2	3	11	12	13	14	15	16
16. West Bengal	1. Bankura (S)	(i) Motgoda	25	22	88.00	28	24	85.71
		(ii) Taldangra	59	57	96.61	70	65	92.86
	2. Midnapur	(i) Garbeta	117	117	100.00	28	28	100.00
		(ii) Midnapur Sadar	204	204	100.00	N.A.	N.A.	—
		Total	405	400	98.77	126	117	92.86
		Total for the nurseries distributing seedlings to individual farmers	7223.4	5460.2	75.59	11130	6323.2	56.81
		Average per Nursery	164.2	124.1	75.59	198.8	112.9	56.81

A—Total No. of plants distributed to different agencies (000)

B—No. of plants distributed to individual farmers (000)

C—B as % of A



## Most popular varieties of spices grown by the selected nurseries

Name of State	Name of Division	No. of nurseries growing
1	2	3
<b>I. Albezla Lebbeck (Siris)</b>		
1. Kerala . . . . .	Trivandrum	2
2. Maharashtra . . . . .	Ahmednagar	2
3. Orissa . . . . .	Bolangir	2
4. Rajasthan . . . . .	Bharatpur	1
5. Uttar Pradesh . . . . .	Jhansi	1
6. West Bengal . . . . .	Bankura	1
<b>II. Azadirachia Indica (Neem)</b>		
1. Madhya Pradesh . . . . .	Jabalpur	2
	Raipur	2
2. Orissa . . . . .	Bolangir	2
3. Rajasthan . . . . .	Udaipur	1
4. U.P. . . . .	Lakhimpur Kheri	1
<b>III. Casuarina Equisifolia (Saru)</b>		
1. Andhra Pradesh . . . . .	Nallore	1
	Sangareddy	1
2. Himachal Pradesh . . . . .	Nurpur	1
3. Karnataka . . . . .	Mandya	2
4. Kerala . . . . .	Cannanore	2
	Trivandrum	2
5. Maharashtra . . . . .	Osmanabad	2
6. Orissa . . . . .	Cuttack	2
<b>IV. Delberga Sissoo (Shisham)</b>		
1. Andhra Pradesh . . . . .	Sangareddy	1
2. Assam . . . . .	North Kamrup	1
3. Bihar . . . . .	Gaya	2
4. Madhya Pradesh . . . . .	Raipur	2
	Ratlam	1
5. Maharashtra . . . . .	Ahmednagar	2
	Osmanabad	2
6. Orissa . . . . .	Bolangir	2
7. Rajasthan . . . . .	Bharatpur	2
	Udaipur	1
8. Uttar Pradesh . . . . .	Jhansi	2
	Lakhimpur Kheri	2
9. West Bengal . . . . .	Bankura	2
<b>V. Delonis Regie (Gulmohar)</b>		
1. Andhra Pradesh . . . . .	Sangareddy	2
2. Assam . . . . .	Sisagar	1
3. Kerala . . . . .	Cannanore	1
4. Madhya Pradesh . . . . .	Raipur	2
5. Rajasthan . . . . .	Bharatpur	1
6. Uttar Pradesh . . . . .	Lakhimpur Kheri	1

1	2	3
<b>VI. Eucalyptus</b>		
List of those not growing :		
1. Assam . . . . .	North Kamrup	1
	Sibsagar	1
2. Bihar . . . . .	Dumka	2
	Gaya	2
3. Gujarat . . . . .	Kutch	1
4. Jammu & Kashmir . . . . .	Anantnag	2
5. Kerala . . . . .	Cannanore	1
6. Madhya Pradesh . . . . .	Raipur	2
	Ratlam	2
7. Maharashtra . . . . .	Osmanabad	1
8. Uttar Pradesh . . . . .	Almora	2
	Jhansi	1
<b>VII. Leucaenea Leucocephala (Subabul)</b>		
1. Andhra Pradesh . . . . .	Nellore	1
	Sangareddy	2
2. Gujarat . . . . .	Baroda	1
	Kutch	2
3. Himachal Pradesh . . . . .	Nurpur	1
4. Karnataka . . . . .	Mandya	1
	Gulbarga	1
5. Madhya Pradesh . . . . .	Jabalpur	1
6. Maharashtra . . . . .	Ahmednagar	2
	Nasik	1
	Osmanabad	2
7. Rajasthan . . . . .	Bharatpur	1
	Udaipur	1
<b>VIII. Fruits</b>		
1. Andhra Pradesh . . . . .	Sangareddy	2
2. Bihar . . . . .	Dumka	2
	Gaya	2
3. Karnataka . . . . .	Mandya	1
4. Madhya Pradesh . . . . .	Jabalpur	2
	Raipur	2
	Ratlam	2
5. Maharashtra . . . . .	Ahmednagar	1
	Nasik	1
6. Orissa . . . . .	Bolangir	2
7. Rajasthan . . . . .	Udaipur	1
8. Uttar Pradesh . . . . .	Jhansi	2
	Lakhimpur Kheri	2

**Comparative statement showing year-wise Achievements under Centrally sponsored Social Forestry Scheme including  
Rural Fuel wood Plantation**

States	No. of seedlings distributed (in lakhs)							
	1980-81		1981-82		1982-83		1983-84	
	A	B	A	B	A	B	A	B
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh	—	—	133.88	147.76	166.07	166.07	179.70	180.00
2. Assam	—	2.00	40.05	8.00	62.58	22.50	66.95	62.00
3. Bihar	—	—	—	—	106.00	46.00	71.76	64.50
4. Gujarat	—	—	100.00	—	164.00	—	171.00	—
5. Haryana	—	—	40.00	46.00	62.50	47.50	62.50	47.50
6. Himachal Pradesh	—	—	4.00	4.00	40.00	40.00	63.76	79.76
7. J & K	—	—	—	—	—	—	—	—
8. Karnataka	102.67	250.00	75.00	75.00	200.00	200.00	175.00	175.00
9. Kerala	—	—	43.47	43.47	80.50	80.00	80.00	80.00
10. Madhya Pradesh	210.68	—	210.68	—	286.49	—	297.50	—
11. Maharashtra	—	—	18.30	—	25.80	25.80	171.42	171.42
12. Orissa	—	—	6.10	12.20	61.00	121.00	73.94	83.94
13. Rajasthan	—	—	20.00	—	100.50	21.00	100.50	120.00
14. Tamil Nadu	—	—	10.00	12.01	37.60	33.55	11.37	109.04
15. Uttar Pradesh	—	—	—	18.70	—	53.10	—	47.30
16. West Bengal	—	—	50.00	50.00	50.00	50.00	58.00	58.00
Total	313.35	252.00	751.48	416.14	1443.04	906.52	1583.40	1278.46

A—Fig. complied by Ministry.

B—Figs. collected in course of the study.



**Comparative statement showing year-wise Achievements under Centrally Sponsored/Social Forestry Scheme including Rural Fuelwood Plantation**

States	Area covered in hectares							
	1980-81		1981-82		1982-83		1983-84	
	A	B	A	B	A	B	A	B
1	10	12	12	13	14	15	16	17
1. Andhra Pradesh	—	—	4446	4446	5413	5413	5528	5530
2. Assam	—	2500	1450	3550	2824	6000	4600	7800
3. Bihar	—	—	335	335	7000	7000	7000	7000
4. Gujarat	—	—	1995	2000	2396	2396	3000	3000
5. Haryana	—	—	3326	3753	2500	3572	2500	3958
6. Himachal Pradesh	241	241	1349	1349	2054	2053	3480	3480
7. J. & K.	—	—	—	—	—	—	—	—
8. Karnataka	104	476	3144	3244	3328	3328	4462	4462
9. Kerala	1222	—	1365	—	2647	—	2812	—
10. Madhya Pradesh	—	3000	3273	11821	10695	14200	12135	13608
11. Maharashtra	—	—	—	—	1019	1019	1726	1726
12. Orissa	—	—	3639	14291	6411	13139	7368	10908
13. Rajasthan	—	—	4008	—	3900	1400	7800	8000
14. Tamil Nadu	—	—	8022	7699	6632	6369	5179	4804
15. Uttar Pradesh	—	—	1525	1157	3408	3414	3643	3643
16. West Bengal	—	—	685	685	1750	1750	1780	1780
Total	1567	6217	38562	54330	61987	71053	73013	79699

A—Fig. compiled by Ministry.

B—Fig. collected in course of the study.



सत्यमेव जयते



## Yearwise seedling distributed in lakhs under RFWP and Externally aided SF Programmes

Sl. No.	State	Programmes	1980-81		1981-82		1982-83	
			Target	Achievements.	Target	Achievements	Target	Achievements.
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	(i) RFWP	N. A.	N. A.	150.00	146.76	157.00	166.07
		(ii) Externally aided SFP	—	—	—	—	—	—
		Total	—	—	150.00	146.76	157.00	166.07
2.	Assam	RFWP	2.00	2.00	8.00	8.00	30.00	22.50
3.	Bihar	RFWP	—	—	N. A.	N. A.	46.00	45.00
4.	Gujarat	(i) RFWP	—	—	—	—	—	—
		(ii) Externally aided SFP	300.00	300.00	625.00	625.00	750.00	750.00
		Total	300.00	300.00	625.00	625.00	750.00	750.00
5.	Haryana	(i) RFWP	—	—	46.00	46.00	47.50	47.50
		(ii) Externally aided SFP	—	—	—	—	94.58	94.58
		Total	—	—	46.00	46.00	142.08	142.08
6.	Himachal Pradesh	(i) RFWP	N. A.	N. A.	N. A.	4.00	N. A.	41.00
7.	Jammu & Kashmir	(ii) RFWP	—	—	N. A.	2.23	32.50	23.82
8.	Karnataka	(i) RFWP	250.00	250.00	75.00	75.00	200.00	200.00
		(ii) Externally aided SFP	—	—	—	—	—	—
		Total	250.00	250.00	75.00	75.00	200.00	200.00
9.	Kerala	(i) RFWP	—	—	N. A.	43.47	35.00	80.00
10.	Madhya Pradesh	(i) RFWP	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.
		(ii) Externally aided SFP	—	—	N. A.	N. A.	1000.00	1000.00
		Total	—	—	N. A.	N. A.	1000.00	1000.00
11.	Maharashtra	(i) RFWP	—	—	—	—	20.20	25.80
		(ii) Externally aided SFP	—	—	—	—	7.05	6.78
		Total	—	—	—	—	27.25	32.58
12.	Orissa	(i) RFWP	N. A.	N. A.	N. A.	12.20	N. A.	121.00
		(ii) Externally aided SFP	—	—	—	—	—	—
		Total	—	—	—	—	—	—
13.	Rajasthan	RFWP	—	—	—	—	120.00	21.00
14.	Tamil Nadu	(i) RFWP	—	—	12.00	12.00	40.00	33.55
		(ii) Externally aided SFP	—	—	42.00	31.29	99.75	111.88
		Total	—	—	54.00	43.29	139.75	145.43
15.	Uttar Pradesh	(i) RFWP	—	—	14.00	18.70	40.00	53.10
		(ii) Externally aided SFP	140.00	174.40	200.00	237.00	290.00	295.20
		Total	140.00	174.40	214.00	255.70	330.00	348.30
16.	West Bengal	(i) RFWP	—	—	50.00	50.00	50.00	50.00
		(ii) Externally aided SFP	—	—	65.30	65.50	144.60	139.00
		Total	—	—	115.30	115.50	194.60	189.00
All States.			252.00	252.00	N. A.	416.14	N. A.	906.52
		(ii) Externally aided SFP	440.00	474.40	N. A.	959.02	2321.88	2421.26
		Total	692.00	726.40	N. A.	1375.16	N. A.	3327.78

## Year-wise seedling distributed in lakhs under RFWP and Externally aided SFP Programme.

Sl. No.	State	Programme	1983-84		Total	
			Targets	Achievements	Targets	Achievements
1	2	3	10	11	12	13
1. Andhra Pradesh		(i) RFWP	197.00	180.00	504.00	492.83
		(ii) Externally aided SFP	453.25	219.00	453.25	214.00
		Total	650.25	399.00	957.25	711.83
2. Assam		RFWP	60.00	62.00	100.00	94.50
3. Bihar		RFWP	64.50	64.50	110.50	110.50
4. Gujarat		(i) RFWP	—	—	—	—
		(ii) Externally aided SFP	800.00	800.00	2475.00	2475.00
		Total	800.00	800.00	2475.00	2475.00
5. Haryana		(i) RFWP	47.50	47.50	141.00	141.00
		(ii) Externally aided SFP	212.00	214.70	306.58	309.28
		Total	259.50	262.20	447.58	450.28
6. Himachal Pradesh		RFWP	N. A.	79.76	N. A.	123.76
7. Jammu & Kashmir		RFWP	70.00	93.15	N. A.	119.20
8. Karnataka		(i) RFWP	175.00	175.00	700.00	700.00
		(ii) Externally aided SFP	1000.00	812.00	1000.00	812.00
		Total	1175.00	937.00	1700.00	1512.00
9. Kerala		RFWP	40.00	80.00	N.A.	203.47
10. Madhya Pradesh		(i) RFWP	N.A.	N.A.	N.A.	N.A.
		(ii) Externally aided SFP	1240.00	892.00	2240.00	1892.00
		Total	1240.00	892.00	2240.00	N.A.
11. Maharashtra		(i) RFWP	120.00	171.42	140.20	197.22
		(ii) Externally aided SFP	20.20	40.10	27.25	46.88
		Total	140.20	211.52	167.45	244.10
12. Orissa		(i) RFWP	N.A.	83.94	N.A.	217.14
		(ii) Externally aided SFP	Only preparatory work done			
		Total	N.A.	83.94	N.A.	217.14
13. Rajasthan		RFWP	105.00	120.00	125.00	141.00
14. Tamil Nadu		(i) RFWP	120.00	109.04	172.00	154.60
		(ii) Externally aided SFP	248.00	275.33	390.75	418.50
		Total	368.00	384.37	562.75	573.10
15. Uttar Pradesh		(i) RFWP	59.00	47.30	113.00	119.10
		(ii) Externally aided SFP	290.00	322.90	920.00	1029.50
		Total	349.00	370.20	1033.00	1148.60
16. West Bengal		(i) RFWP	58.00	58.00	158.00	158.00
		(ii) Externally aided SFP	229.20	229.20	439.10	433.70
		Total	287.20	287.20	597.10	591.70
All-States		(i) RFWP	N.A.	1278.46	N.A.	2853.12
		(ii) Externally aided SFP	4419.05	3898.38	N.A.	7755.06
		Total	N.A.	5176.84	N.A.	10606.18

## Yearwise area covered in hect. under RFWP and Externally aided SP Programme

Sl. No.	State	Programme	1980-81		1981-82		1982-83	
			Targets	Achievements	Targets	Achievements	Targets	Achievements
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	(i) RFWP	N.A.	N.A.	4870	4446	5575	5413
		(ii) Externally aided SFP						
		Total	N.A.	N.A.	4870	4446	5575	5413
2.	Assam	RFWP	2500	2500	3550	3550	5970	6000
3.	Bihar	RFWP	—	—	335	335	7000	7000
4.	Gujarat	(i) RFWP	—	—	N.A.	3000	N.A.	2396
		(ii) Externally aided SFP	14760	14759	18400	18693	22180	22368
		Total	14760	14759	N.A.	20693	N.A.	24764
5.	Haryana	(i) RFWP	—	—	3753	3753	3572	3572
		(ii) Externally aided SFP	—	—	—	—	4600	5368
		Total	—	—	3753	3753	8172	8940
6.	Himachal Pradesh	RFWP	N.A.	241	1387	1349	2000	2053
7.	Jammu & Kashmir	Externally aided SFP	—	—	N.A.	297	800	841
8.	Karnataka	(i) RFWP	480	476	4100	3244	4000	3328
		(ii) Externally aided SFP	—	—	—	—	—	—
		Total	480	476	4100	3244	4000	3328
9.	Kerala	RFWP	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10.	Madhya Pradesh	(i) RFWP	3000	3000	11821	11821	14200	14200
		(ii) Externally aided SFP	—	—	1425	355	5576	5405
		Total	3000	3000	13246	12176	19776	19605
11.	Maharashtra	(i) RFWP	—	—	—	—	1400	1019
		(ii) Externally aided SFP	—	—	—	—	5166	3976
		Total	—	—	—	—	6566	4995
12.	Orissa	(i) RFWP	N.A.	N.A.	N.A.	14291	N.A.	13139
		(ii) Externally aided SFP	—	—	—	—	—	—
		Total	N.A.	N.A.	N.A.	14291	N.A.	13139
13.	Rajasthan	RFWP	—	—	—	—	N.A.	1400
14.	Tamil Nadu	(i) RFWP	—	—	8200	7699	7000	6369
		(ii) Externally aided SFP	—	—	23005	23688	34670	28782
		Total	—	—	31205	31387	41670	35151
15.	Uttar Pradesh	(i) RFWP	—	—	1170	1157	3228	3414
		(ii) Externally aided SFP	7000	8720	10000	11860	14500	14761
		Total	7000	8720	11170	13017	17728	18175
16.	West Bengal	(i) RFWP	—	—	685	685	1750	1750
		(ii) Externally aided SFP	—	—	6304	6304	4187	4148
		Total	—	—	6989	6989	5937	5898
All-States		(i) RFWP	N.A.	6217	N.A.	54330	N.A.	71053
		(ii) Externally aided SFP	21760	23479	N.A.	61197	91042	85649
		Total	N.A.	29696	N.A.	115527	N.A.	156702

## Yearwise area covered in hect. RFWP and Externally aided SF Programme

Sl. No.	State	Programme	1983-84		Total	
			Targets	Achievements	Targets	Achievements
1	2	3	10	11	12	13
1.	Andhra Pradesh	(i) RFWP	6000	5530	N.A.	1538
		(ii) Externally aided SFP	2500	2252	N.A.	2252
		Total	8500	7782	N.A.	17641
2.	Assam	RFWP	5500	7800	17520	19850
3.	Bihar	RFWP	7000	7000	14335	14335
4.	Gujarat	(i) RFWP	N.A.	3000	N.A.	7396
		(ii) Externally aided SFP	24430	24850	79770	80670
		Total	N.A.	27850	N.A.	88066
5.	Haryana	(i) RFWP	3958	3958	11283	11283
		(ii) Externally aided SFP	9000	9004	13600	14372
		Total	12958	12962	24883	25655
6.	Himachal Pradesh	RFWP	2476	3480	N.A.	7123
7.	Jammu & Kashmir	External aided SFP	2000	2396	N.A.	3534
8.	Karnataka	(i) RFWP	4600	4462	13180	11510
		(ii) Externally aided SFP	6761	5771	6761	5771
		Total	11361	10233	19941	17281
9.	Kerala	RFWP	N.A.	N.A.	N.A.	N.A.
10.	Madhya Pradesh	(i) RFWP	13608	13608	42629	42629
		(ii) Externally aided SFP	16794	1750	23795	7510
		Total	30402	15358	66424	50139
11.	Maharashtra	(i) RFWP	2000	1726	3400	2745
		(ii) Externally aided SFP	5000	5659	10166	9635
		Total	7000	7385	13566	12380
12.	Orissa	(i) RFWP	N.A.	10908	N.A.	38338
		(ii) Externally aided SFP	—	—	—	—
		Total	N.A.	10908	N.A.	38338
13.	Rajasthan	RFWP	N.A.	8000	N.A.	9400
14.	Tamil Nadu	(i) RFWP	5400	4804	20600	18872
		(ii) Externally aided SFP	29410	23280	87085	75750
		Total	34810	28084	107685	94622
15.	Uttar Pradesh	(i) RFWP	4900	3643	9298	8214
		(ii) Externally aided SFP	14500	16146	46000	51487
		Total	19400	19789	55298	59701
16.	West Bengal	(i) RFWP	1780	1780	4215	4215
		(ii) Externally aided SFP	7255	7231	17746	17683
		Total	9035	9011	21961	21898
	All-States	(i) RFWP	N.A.	79699	N.A.	211299
		(ii) Externally aided SFP	17465	98339	N.A.	268664
		Total	N.A.	178038	N.A.	479963

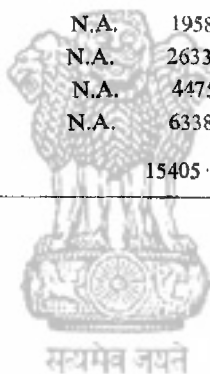
**Yearwise Allocation of funds and Expenditure under Externally and Centrally Sponsored Social Forestry Programmes including RFWP**

(Rs. in lakhs)

Sl. No.	Name of State	Year	Externally aided SF Programme		Centrally Sponsored SF Schemes including RFWP		Total	
			Allocation	Expenditure	Allocation	Expenditure	Allocation	Expenditure
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	upto						
		1980-81	—	—	—	—	—	—
		1981-82	—	—	143.77	121.81	143.77	121.81
		1982-83	—	—	172.46	150.04	176.46	150.04
		1983-84	131.00	65.08	227.32	175.85	358.32	240.93
		Total	131.00	65.08	543.55	447.70	678.55	512.78
2.	Assam	upto						
		1980-81	—	—	7.48	7.48	7.48	7.48
		1981-82	—	—	41.88	41.88	41.88	41.88
		1982-83	—	—	78.56	78.56	78.56	78.56
		1983-84	—	—	135.58	138.42	135.58	138.42
		Total	—	—	263.50	266.34	263.50	266.34
3.	Bihar	upto						
		1980-81	—	—	2.14	2.14	2.14	2.14
		1981-82	—	—	72.65	72.65	72.65	72.65
		1982-83	—	—	175.91	175.91	175.91	175.91
		1983-84	—	—	200.17	200.17	200.17	200.17
		Total	—	—	450.87	450.87	450.87	450.87
4.	Gujarat	upto						
		1980-81	N.A.	1014.50	N.A.	21.43	N.A.	1035.93
		1981-82	N.A.	1054.10	N.A.	71.41	N.A.	1125.51
		1982-83	N.A.	1407.20	N.A.	113.45	N.A.	1520.65
		1983-84	N.A.	1762.40	N.A.	152.64	N.A.	1915.04
		Total	N.A.	5238.20	N.A.	358.93	N.A.	5597.13
5.	Haryana	upto						
		1980-81	—	—	2.00	2.00	2.00	2.00
		1981-82	—	—	176.13	176.13	176.13	176.13
		1982-83	247.65	247.65	114.26	114.26	361.91	361.91
		1983-84	309.00	309.00	119.86	119.86	428.86	428.86
		Total	556.65	556.65	412.25	412.25	968.90	968.90
6.	Himachal Pradesh	up to						
		1980-81	—	—	8.01	8.01	8.01	8.01
		1981-82	—	—	34.39	32.39	34.39	32.39
		1982-83	—	—	72.43	72.43	72.43	72.43
		1983-84	—	—	143.22	132.42	143.22	132.42
		Total	—	—	258.05	245.25	258.05	245.25

1	2	3	4	5	6	7	8	9
7. Jammu & Kashmir	upto							
	1980-81	—	—	—	—	—	—	—
	1981-82	—	—	—	—	—	—	—
	1982-83	130.50	130.50	—	—	130.50	130.50	—
	1983-84	303.80	303.80	—	—	303.80	303.80	—
	Total	434.30	434.30	—	—	434.30	434.30	—
8. Karnataka	upto							
	1980-81	—	—	113.20	112.66	113.20	112.66	—
	1981-82	—	—	111.47	111.47	111.47	111.47	—
	1982-83	—	—	140.00	110.00	140.00	110.00	—
	1983-84	645.00	335.00	176.00	176.00	821.00	511.00	—
	Total	645.00	335.00	540.67	510.13	1185.67	845.13	—
9. Kerala	up to							
	1980-81	—	—	—	—	—	—	—
	1981-82	—	—	N.A.	175.06	N.A.	175.06	—
	1982-83	—	—	N.A.	98.95	N.A.	98.95	—
	1983-84	—	—	N.A.	278.51	N.A.	278.51	—
	Total	—	—	N.A.	552.52	N.A.	552.52	—
10. Madhya Pradesh	upto							
	1980-81	26.00	22.23	127.86	121.00	153.86	143.25	—
	1981-82	37.20	45.16	55.50	49.99	92.70	95.15	—
	1982-83	271.00	261.20	141.00	248.73	412.00	509.93	—
	1983-84	537.50	526.56	237.00	445.99	774.50	972.55	—
	Total	871.70	855.17	561.36	865.71	1433.06	1720.88	—
11. Maharashtra	upto							
	1980-81	—	—	—	—	—	—	—
	1981-82	—	—	—	—	—	—	—
	1982-83	438.63	391.69	64.84	64.84	503.47	456.53	—
	1983-84	646.24	557.28	104.81	86.69	751.05	643.97	—
	Total	1084.87	948.97	169.65	151.53	1254.52	1100.50	—
12. Orissa	upto							
	1980-81	—	—	—	39.44	—	39.44	—
	1981-82	—	—	N.A.	84.12	—	84.12	—
	1982-83	—	—	N.A.	96.77	N.A.	96.77	—
	1983-84	50.00	N.A.	N.A.	108.94	N.A.	108.94	—
	Total	50.00	N.A.	N.A.	329.27	—	329.27	—
13. Rajasthan	up to							
	1980-81	—	—	50.84	50.84	50.84	50.84	—
	1981-82	—	—	90.10	89.84	90.00	89.84	—
	1982-83	—	—	169.36	167.40	169.36	167.40	—
	1983-84	—	—	248.00	201.40	248.00	201.40	—
	Total	—	—	558.20	509.48	558.20	509.48	—
14. Tamil Nadu	up to							
	1980-81	—	—	—	—	—	—	—
	1981-82	497.74	418.27	87.27	87.27	585.01	505.54	—

1	2	3	4	5	6	7	8	9
		1982-83	832.48	699.56	103.92	103.92	936.40	803.48
		1983-84	987.22	829.51	135.33	135.33	1122.55	964.84
		Total	2317.44	1947.34	326.52	326.52	2643.96	2273.86
15. Uttar Pradesh	up to							
	1980-81		925.36	921.43	—	—	925.36	921.43
	1981-82		929.52	919.79	70.28	68.59	999.80	988.38
	1982-83		1012.95	1012.27	73.50	71.95	1086.45	1084.22
	1983-84		1227.09	1227.09	170.05	147.67	1397.14	1374.76
	Total		4094.92	4080.58	313.83	288.21	4408.75	4368.79
16. West Bengal	up to							
	1980-81		—	—	6.40	6.40	6.40	6.40
	1981-82		242.60	196.50	40.00	29.60	282.60	226.10
	1982-83		412.70	325.10	50.00	48.70	462.70	373.80
	1983-84		590.60	423.10	55.00	50.60	645.60	473.70
	Total		1245.90	944.70	151.40	135.40	1397.30	1080.00
Total (All-States)	up to							
	1980-81		N.A.	1958.18	N.A.	371.40	N.A.	2329.58
	1981-82		N.A.	2633.82	N.A.	1212.21	N.A.	3846.03
	1982-83		N.A.	4475.17	N.A.	1715.91	N.A.	6191.08
	1983-84		N.A.	6338.82	N.A.	2550.49	N.A.	8889.31
(Total all year)				15405.99		5850.01		21256.00



## CHAPTER IV

### PLANTATIONS ON PUBLIC LAND

4.1 In all States, except Himachal Pradesh, strip plantations alongside roads, canals and railway lines were taken up, albeit on a restricted scale in few States. The funds placed at the disposal of the implementing agencies out of different schemes were utilised for the purpose. In Madhya Pradesh railway side plantation was not taken up. Road side plantation taken up under Externally-Aided Social Forestry Project was however, abandoned from 1984-85 due to high costs involved. In other districts not covered by the Externally-Aided Social Forestry Project, road side plantation was funded by the PWD through the Forest Department which was responsible for its maintenance. In Maharashtra strip plantations alongside roads, canal banks and railway lines were taken up on a restricted scale in the identified project villages. In Orissa strip plantation was taken up alongside roads only.

4.2 Achievements in terms of block plantations in the form of village woodlots on community land was quite dismal in almost all the States. So much so out of 256 selected villages, block plantations on village community land in some form or other was raised in 23 villages, about nine per cent, only. Efforts made so far towards this, reactions of the panchayats and the factors bedeviling progress are dealt with separately in this chapter.

#### *Criteria followed for selection of area*

4.3 In States like Andhra Pradesh, Kerala, Tamil Nadu, Uttar Pradesh and West Bengal, strip plantations were taken up on the basis of availability of land. In Gujarat, for road side plantation, national highways were taken first, followed by state highways and other roads in that order. In Madhya Pradesh, road side plantation was taken up along national and state highways and other roads connecting important towns. In Maharashtra, site for plantation along railway lines and canal banks restricted to the project villages was selected on the basis of—(i) availability of not less than five hect. of contiguous area, (ii) concentration of over ten per cent SC & ST and 30 per cent landless agricultural labourers in the village and (iii) general reputation of the village panchayats being responsive to the development programmes. However, the emphasis under Maharashtra State Social Forestry Programme was mainly on block plantations on village common land and Farm Forestry. Area under strip plantation accounted for not more than five per cent of the total area to be covered by the Project over five years period. In Orissa, selection of site for avenue plantation depended on proximity of the area to the Nurseries, staffing position, arrangements for watering and protection. Railway side plantation could not be taken up for lack of funds. In Rajasthan,

for road side plantation along national and state highways, preference was given to the areas where at least three rows could be planted on either side of the road and continuity of work in the area could be maintained for at least three years to ensure follow-up action.

#### *Cooperation from other Departments*

4.4 Almost all the States reported about good cooperation from the concerned departments like PWD, Revenue and Irrigation, in getting the land owned by them for public plantation. In Andhra Pradesh response from the Railways was not encouraging. At initial stage there was a hiatus with the Railways over the question of maintenance of the railway side plantation for the initial years which, the Railways insisted, should be borne by the Forest Department. As a result work could not be taken up till 1983-84. In the states where plantation along railway lines was taken up, the Railways executed an agreement with the implementing agencies for leasing out railway land on token rent of rupee one per hect, per annum.

#### *Steps taken for ensuring protection of public plantations*

4.5 In no State, steps were taken for evolving any authority with power to ensure protection of community strip plantations. Apart from declaring public plantations alongside roads, canals and railway lines as protected areas under the Forest Act in some States like Assam, Gujarat, Haryana, Himachal Pradesh and Rajasthan, local arrangements for protection of the plantations were made in Orissa, Tamil Nadu, Uttar Pradesh and West Bengal. In Andhra Pradesh watchmen were employed for Forest Department to protect roadside plantations at the rate of one person per five kms. stretch. In West Bengal watchmen were also appointed for protection of strip plantations but not with much success. The Forest Department was not inclined to hand over legal control of these lands to panchayats for obvious reasons, lest such lands should be required by the respective departments at short notice for public purposes. In Maharashtra, attempts made to raise plantations along canal banks as a special component of the State plantation schemes, by employing landless labourers, met with little success. The labourers were given one hect. of land and Rs. 150 per month as wages for guarding the plantations. The scheme flopped as landless labourers were not inclined to stay at the site throughout the year on marginal wages. Moreover, the title of canal land that could be allotted to the beneficiaries under the scheme was not yet decided.



4.6 In most of the States plantations raised on public land had not matured for harvesting the produce and hence sharing of produce by the implementing agencies and beneficiaries had not yet started. In several states some informal arrangements had been worked out for sharing of produce. However, in the absence of any legal basis it is highly improbable that such arrangements would be followed in future.

4.7 The statement at Annex 4.1 to this chapter gives the species commonly planted on public land in different States. The commercially exploitable Eucalyptus appears to be common among all species almost in all the States. Where Public plantations were raised, either on degraded forest land or on PWD and other Government land by the Forest Department, adequate protective measures like cattle-proof trench around plantation sites or by engaging plot watcher, were taken. As a result, survival rate of species was reported to be quite high.

#### *Incentives to raise plantations*

4.8 In none of the States legislative provisions were made for encouraging plantations on public land by conferring ownership rights of plants or of land. Some of the States, however, had a few schemes of providing incentives as a measure of inducements to raise plantations on public land. In Andhra Pradesh a scheme of granting tree patta was initiated in Nalgonda district on experimental basis under which 2000 trees were to be allotted to each beneficiary. On condition of proper maintenance they would be allowed to harvest the produce on maturity. The Scheme however, was a non-starter, as people were not willing to wait for six/seven years till harvest without any remuneration. In Karnataka response of the landless labourers to an incentive scheme under which plantations raised on Government land at Government cost were to be allotted to them on condition of the produce being shared with the Government on 50 : 50 basis, was not encouraging due to the long gestation period.

4.9 In Maharashtra, although Panchayats were to appropriate 90 per cent of income on the produce of the plantations on community land, such inducement failed to evoke response from them to the desired extent in raising community plantations. In Rajasthan about 450 tribal farmers were encouraged to raise plantations on two hec. per family per year for 15 years on a monthly wage of Rs. 250. In Uttar Pradesh, a person was allowed to plant trees along a specified road length or on specified area to reap harvest without any ownership rights. Initial wages were also paid for digging up pits for planting trees. No information regarding number of beneficiaries under this scheme was however, available. In West Bengal the Forest Department encouraged landless labourers who were allotted vested land as patta land to grow Farm Forestry on such land by providing incentives in cash and kinds. However, no precise information about use of patta land by the allottees for raising plantations was available.

#### *Produce of Social Forestry vis-a-vis requirements of forest based industries*

4.10 Social Forestry Programme was essentially to meet fuelwood and fodder needs of rural poor and hence there was no scope in the Programme of meeting the requirements of the forest based industries which were met by the Forest Department. In most of the States there was no provision under the Social Forestry schemes for meeting the requirements of the forest based industries. In Haryana one paper mill existed since earlier which was meeting its requirements of forest based raw materials from other sources. With the launching of the Social Forestry Programme its requirements were now being met locally. Many small units making packing cases and crates had also been set up in the State after the launching of the Programme. Availability of raw materials for such units had also become easier as a result of Social Forestry Programme. In Uttar Pradesh Eucalyptus timber grown under the Programme was given to the industries as raw materials at a price which was often concessional.

#### *Need for protecting produce of Social Forestry against possible use by large users of forest produce*

4.11 The bulk of the major forest produce is presently being utilised in meeting the raw material needs of the organised users e.g. paper mills, match factories, timber mills etc. With the increasing tempo of construction and house building activities in the country demand for wood and timber would further accelerate. So much so in near future it would be extremely difficult for forests alone to meet the excessive demand from these sectors in the normal course. The combined and ever increasing demand for the major forest produce would thus bring to the fore the problems of not only a faster rate of exploitation of the forest resources without allowing sufficient time for normal regeneration but also the risk of absorbing the additional supplies from the harvest of the produce of Social Forestry, as and when that materialises in course of next five/six years. Such a situation would not be consistent with the objectives of Social Forestry Programme.

4.12 Almost all the States were of the opinion that solution to this problem lay in allowing organised large users of forest produce to raise captive plantations on degraded forest land or waste land to meet their own requirements. The technical inputs for such venture could be provided by the Forest Department. Himachal Pradesh however, was not in favour of allowing industrial units to raise captive plantations in the State to meet their raw material needs, for peoples' right as users of land, in their opinion, should not be abrogated.

4.13 With a view to realising the basic objectives of Social Forestry Programme it is but imperative that a mechanism should be devised whereby the demand of the large users is insulated from the supplies which in due course may become available from new plantations under Farm/Social Forestry. The large users of forest produce being easily identifiable and also com-

paratively few in numbers, their future expansion should be made conditional upon their being agreeable to raise captive plantations on a specifically demarcated compact areas of degraded forest or wasteland, to be allotted to them on lease or on other suitable basis. The development of such blocks of degraded forest or wasteland should be the responsibility of the allottees. For this purpose technical help, if necessary, could be provided by the State Forest Department and financial assistance by the Bank.

*Caution needed in promoting captive plantations by users of forest produce*

4.14 There is, however, one pitfall in such arrangements. The allottees of degraded forest land may be interested in mono-culture of trees like the fast growing commercially exploitable Eucalyptus which has ready market as industrial raw material. In large scale plantations on waste and degraded forest land the choice of trees is very important. Eucalyptus plantations on a mass scale, as was done in the Nilgiris, depletes ground water at a faster rate and thereby affects the yield of other crops. Besides, there is possibility of destruction of highly complex vegetative balance in the surrounding areas. This aspect has to be considered carefully before leasing out large chunks of degraded forests or wasteland for raising captive plantations by the industrial units. Moreover, the socio-political implications of raising of such plantations on large scale, vis-a-vis the rights of tribal and rural population who have to depend on forests for meeting their fuel and fodder needs have also to be weighed cautiously before deciding on such a course of action.

4.15 The rate of exploitation of the existing forests and regulation of supplies to the large users should also be carefully decided upon by the Forest Department. No private parties or contractors should be allowed to enter the forest areas and the produce collected from the forests should be disposed of by the Forests Department or by the Forest Development Corporations, as the case may be, through their own depots located at suitable points.

4.16 For forest development on a suitable basis demarcated blocks of land along railway lines could be allotted to paper mills, timber factories etc. The timber, wood etc. raised from these allotted areas could be utilised by these units as raw materials and excess produce could be made over to the Forest Department for disposal under conditions prescribed for this purpose. This arrangement would in the long run prove economical to these users in terms of transport cost etc. and would act as inducement for forest development.

*Tree plantation by Industrial Units*

4.17 The evaluation study revealed that most of the States were in favour of making it obligatory on the part of industrial units/factories to plant trees on strips of land bordering their locations as a measure to check pollution. This would also have demonstrative effect in popularising the programme of tree plantation. A few States had provided free seedlings to the industrial

units to encourage such plantation. In Gulbarga Division the Forest Department had supplied free seedlings in substantial quantity to six cement manufacturing plants, besides a number of small and medium industrial units in the Division.

*Social Forestry as source of meeting urban needs of fuelwood*

4.18 As Social Forestry Programme was essentially for meeting the fuelwood and fodder needs of rural population, there was no provision in the Programme as such for meeting the fuelwood needs of urban population. In some of the States the Forest Department had their own arrangements for supplying fuelwood to urban population through firewood depots located in urban areas. It was also reported that surplus produce, if any, after meeting the requirements of rural population could as well be supplied to urban people. Cost of fuelwood in urban areas had skyrocketed over the last two decades, especially due to large scale destruction of forests in close proximity to cities and towns. A recent study by the Administrative Staff College of Hyderabad indicated that fuelwood prices in urban areas had risen 10 times since 1960.

4.19 Some of the States had, however, a programme of supplying fuelwood to urban areas as a part of Rural Fuelwood Plantation Programme (RFWP). In Jammu & Kashmir surplus produce of the wet land plantation of willow, after meeting fuelwood needs of rural population could be supplied to urban people. In Karnataka fuelwood needs of urban people were proposed to be met by raising captive plantations. The scheme was already under operation for supply to some of the major cities in the States. In Kerala plantations being raised under RFWP were expected to meet fuelwood needs of urban people. Some of the educational and other institutions took up plantations in compact plots, the produce of which was expected to meet fuelwood needs of urban people. In Gujarat subsidy upto a maximum of Rs. 200 was granted to urban people for acquiring solar cooker, the cost of which should not exceed Rs. 500. This was aimed at encouraging people to use solar energy for cooking in view of acute scarcity of fuelwood in urban areas.

*Problems of getting suitable land for raising block plantations*

4.20 With a view to assessing the efforts made to raise plantations on community/panchayat land with peoples' cooperation and participation data were collected from heads of the panchayat of the selected villages where plantations were raised on community land. The Evaluation study revealed that though one of the major objectives of Social Forestry Programme was to raise block plantations on public and community waste land outside the forest areas, in practice there was very little performance in this regard throughout the country. Out of 256 selected villages block plantations were found to have been raised in only 23, about nine per cent of villages. In Andhra Pradesh plantation on tank fore-shore land belonging to the panchayats was generally not taken up as the

panchayats evinced little interest due to long gestation period of such plantation. Moreover, the panchayats were not equipped to coordinate various work pertaining to public plantation. In Tamil Nadu on account of operational problems like encroachment by local vested interests and lack of protective measures, the Forest Department, by and large, did not prefer panchayat land for tree plantation. Hence tank fore-shore PWD lands were preferred for raising departmental plantation. Moreover, since large areas of PWD land were available in compact block it was easier to take protective measures by engaging plant watchers. In Assam, Madhya Pradesh and Uttar Pradesh waste land belonging to the Revenue Department was hardly available for plantation, as most of the land was already encroached upon. In Madhya Pradesh, even land wherever available, the process of transfer from the Revenue to the Forest Department for public plantation was very tardy and cumbersome. The panchayats were also reluctant to hand over panchayat land to the Forest Department for public plantation. In West Bengal the programme of raising block plantation on community land was virtually a non-starter, for the panchayats hardly owned any land.

#### *Response of panchayats*

4.21 The table at Annex. 4.2 to this chapter portrays details of the public plantations raised in the selected villages. In 20 villages about 560 hect. of Government public/panchayat grazing and waste land were covered under plantations, on an average about 28 hect. per village. In Bankura Division the panchayats in three selected villages took up plantations on primary school, hospital and panchayat office compounds under NREP scheme. Information about the area brought under plantations in these three villages was, however, not available. Even in the villages where public plantations were taken up the panchayats did not come forward on their own to raise public plantations. It was the Forest Department which took initiative in raising public plantations on panchayat land and most of the work from land preparation to actual plantation and its maintenance was their responsibility. In Jhansi Division the panchayats were not inclined to raise plantations under Social Forestry on village grazing land. In fact, the panchayats were not consulted before the land was handed over to the Forest Department by the Revenue Department. In Almora Division also the panchayats had no role to play in the matter of raising plantations, except for providing suitable land for plantations to be planted by the Forest Department. In Lakhimpur Kheri Division, however, the gram panchayat in one of the selected villages voluntarily handed over two hect. of panchayat land to the Forest Department where plantations was done by them. The gram panchayat, however, did not get involved in the Programme. In Mandya Division revenue waste land was used by the Forest Department for block plantation without any involvement of the panchayats. The work was entrusted to the private contractors. In Udaipur Division the gram panchayat passed a resolution to hand over the plot of land to the Forest Department for raising plantation. Thereafter there was no involvement of the panchayat in the Programme. In Kutch Division where block plantation was raised in one of the select-

ed villages, the panchayat after much persuasion allotted the land to the Forest Department for Social Forestry without any involvement by them.

4.22 The above analysis revealed that whatever little effort was made till 1983-84 to cover panchayat/revenue land in the villages for raising block plantations it was entirely done by the Forest Department without any active involvement of the popular organisations. In a few cases the panchayats cooperated in voluntarily offering the plots for plantation. Their main objection was to the use of village grazing land for the purpose of raising block plantation, although one of the major objectives of such plantation programme was to ensure increasing availability of fuelwood land fodder for the village community in the long run.

#### *Awareness*

4.23 To study awareness of the village leaders viz. heads of the panchayat about Social Forestry Programme and their level of understanding of various technicalities of tree plantation on community land, information was collected a structured schedule-cum-questionnaire. Most of the respondents reported to have learnt about the Programme from the functionaries of the Forest Department. In two cases out of 23, they came to know about the Programme from newspapers as well, whereas in one case the revenue officials approached them for raising plantation on public land. Three panchayat leaders out of 23 selected, reported that they became aware of the Programme through the guidelines issued on NREP and were motivated to take up plantation out of the NREP funds set apart for Social Forestry.

#### *Reasons for taking up the Programme*

4.24 As regards reasons for taking up the Programme easy availability of fuelwood fodder and small timber for the local people within the village itself was reported by most of the panchayat leaders. Two panchayats one each in Udaipur and Bankura Divisions, had also reported that the prospect of employment opportunities for local people prompted them to adopt plantation on community land. In one case, the prospect of increasing panchayat income through sale of produce on harvest was given as one of the reasons for taking up plantation on community land.

4.25 The land selected for public plantation was found suitable in all the cases. In Kutch the Block extension officials, forest functionaries and fellow cultivators persuaded the panchayat leaders through demonstration to raise plantation on community land. The extension efforts made were found useful. In the other selected Division no extension efforts were necessary as the Forest Department themselves raised plantation on the plots of land made available to them. Sites were prepared at least 60 days in advance in most of the cases. In one village where the panchayat raised plantation site preparation could not be done according to the directions due to scarcity of water and shortage of funds for which fertiliser could not be applied.

### Supply of Seedlings

4.26 Seedlings for plantation were supplied by the forest nurseries from a distance upto ten kms. from the plantation sites, in case of 16 villages. For other villages where plantation on public land was raised, seedlings were brought from the nurseries at a distance of 15 kms. in one case and beyond that upto 25 kms. in four cases. For two villages of Udaipur Division the information was not available. The seedlings were, by and large, available in time for planting in July. In Almora and Someshwar Ranges some species were planted in January also. The seedlings planted were considered good.

### Survival rate of plants

4.27 The survival percentages of plants of Community plantations on public land are shown in the table below. The figures in brackets in Cols. 5, 6 & 7 indicate survival percentages of plantations of 1981-82, 1982-83 and 1983-84 respectively. The data tend to show that with the passage of time the survival percentage also decreased, as the plants grew. The plantation of one year old had better survival rate at the end of the year than those at the end of second and third year. However, in case of the plantations raised in Moth and Mohammadi Ranges of Uttar Pradesh and Taldangra Range of West Bengal the survival percentage was higher in

case of the older plants as compared to younger plants.

4.28 Taking all years together highest survival rate was reported in respect of public plantation in Mandya Range (99.7 per cent) followed by Bhuj (96.6 per cent) and Mohammadi (93.2 per cent). In other cases survival rate after three years of plantations was well over 75 per cent, except in case of Mouranipur Range in Jhansi where survival rate was 58.4 per cent. As plantations were done by the Forest Department in all cases, except in Bankura, very good survival rate of plants under their close supervision could be attributed to proper aftercare measures and watering of plants at proper time. As against this in Bankura Division where raising of plantations was the responsibility of the panchayat without any help from the Forest Department, except free supply of seedlings, survival rate was around 46 per cent. The plantations suffered due to lack of watering and after care measures. Lack of arrangements for watering the plants or inadequacy of rains was cited as the main reason for plant mortality. In Nagamangla, selection of plants was not proper which also led to relatively higher plant mortality. Among other reasons, destruction of plants by insects especially white ants and termites, was also reported in seven out of ten Ranges studied. However, for high altitude plantations in Almora and Someshwar Ranges, no termite or white ants problems was reported.

Table 4.1 : Survival Percentage of plants of community plantations planted in different year and survived at the end of 1983-84.

State	Division/Range	Area of plantation in hect.	No. planted/ No. survived at the end of 1983-84	Year of plantation and number survived at the end of 1983-84			
				1981-82	1982-83	1983-84	All years
1	2	3	4	5	6	7	8
Gujarat	Kutch	6.02	No. planted	2600	3590	—	6100
	(i) Bhuj		No. survived	2510	3385	—	5895
				(96.5)	(96.7)		(96.6)
Karnataka	Mandya	7.00	No. planted	17500	—	—	17500
	(i) Mandya		No. survived	17445	—	—	17445
				(99.7)			(99.7)
	(ii) Nagamangala	117.40	No. planted	124000	71200	67500	262700
			No. survived	88300	55000	53680	196980
				(71.2)	(77.2)	(79.5)	(75.0)
Uttar Pradesh	Almora	58.00	No. planted	—	22700	12500	35200
	(i) Almora		No. survived	—	16715	10250	26965
					(73.6)	(82.0)	(76.6)
	(ii) Someshwar	180.56	No. planted	8988	19700	13500	42188
			No. survived	6600	14580	10400	31580
				(73.4)	(74.0)	(77.0)	(74.9)
	Jhansi						
	(i) Mauranipur	11.30	No. planted	—	13550	600	14150
			No. survived	—	7775	490	8265
					(57.4)	(81.7)	(58.4)
	(ii) Moth	47.00	No. planted	—	82854	3650	86504
			No. survived	—	62378	2695	65073
					(75.3)	(73.8)	(75.2)
	Lakhimpur Kheri						
	(i) Mohammadi	2.00	No. planted	—	4860	300	5160
			No. survived	—	4560	250	4810
					(93.8)	(83.3)	(93.2)

1	2	3	4	5	6	7	8
West Bengal	Bankura						
	(i) Matgoda	N.A.	No. planted	9000	4900	4500	18400
			No survived	3500	1715	3300	8515
				(38.9)	(35.0)	(73.3)	(46.3)
	(ii) Taldangra	N.A.	No planted	1500	700	400	2600
			No survived	750	350	150	1250
				(50.0)	(50.0)	(37.5)	(48.1)
	Total	429.28	No. planted	163588	223964	102950	490502
			No. survived	119105	166458	81215	366778
				(72.8)	(74.3)	(78.9)	(74.8)

Note :— Figures in brackets are percentages of survivals.

N.A.—Not available.

4.29 Taking all States together, average number of trees planted per hect. upto 1983-84 was about 1100, as far as data were available, whereas the rate per hect. varied widely among the States. Although state-wise per hect. rate of plantation may not be strictly comparable due to different types of species being planted in different areas, besides, varying climatic and soil conditions, in some of the Ranges per hect. rate of plantation appeared to be very much on the higher side. For example, average per hect. rate of plantation in Lakhimpur Kheri was reported to be 2580, closely followed by 2252 in Mandya Division. As against this, average per hect. plantation varied between 325 in Almora to 1726 in Jhansi Division, as far as data collected from the field can be trusted. Even in the same Division per hect. average number of trees planted varied widely between the selected Ranges. As against 2500 trees per hect. reported to have been planted in Mandya Range with relatively better rainfall, rate of plantation in Nagamangla Range in the same Division which was in dry belt with scanty rainfall was about 2238 per hect. In Almora Range average number of trees planted per hect. was about three times the same perceived in Someshwar Range in the same Division. Similarly, in Jhansi Division, per hect. average number of trees planted on community pasture land showed wide fluctuations between the two Ranges.

#### Protective measures taken

4.30 Measures for protection of plantations against grazing by stray cattle, like barbed wire fencing

around plantation sites and engaging chowkidar, were taken where raising of plantation was the responsibility of the Forest Department. In one case where plantation was the panchayat's responsibility, fencing of accacia plants were raised on road side plantation in one village, whereas in other two villages no protective measures could be taken for lack of funds, resulting in higher incidence of plants destruction by stray cattle. In one of the selected villages in Udaipur Division stone walls raised around plantation on Panchayat waste land was found quite effective in protecting plants against grazing by stray cattle.

4.31 Almost in all cases, except in Kutch and Mandya Divisions, partial replantation was done to recoup plantation loss resulting from the lack of plant protection measures. In one village of Mohammadi Range species planted earlier were replaced on replantation by fruit trees, to ensure ecological balance and to make plantation more useful.

#### Employment generation

4.32 As forestry operations are labour intensive, one of the major objectives of raising public plantations on revenue/community land was to generate secondary employment for rural landless and poor wage earners. Public plantations in the selected village generated upto 1983-84 the following person-days of paid employment per village on different planting operations.

Table 4.2 : Generation of Employment through Community plantations

Division	Range	Average person days of labour employed per village upto 1983-84			
		Site preparation	Plantation	Watering and after care measures	Total
1	2	3	4	5	6
1. Kutch	Bhuj	200	30	200	43
2. Mandya	(i) Mandya (ii) Nagamangla	10500	1800	5780	18080
		Data not available as work was entrusted to private contractors			
3. Almora	(i) Almora (ii) Someshwar	575 860	450 890	605 696	1630 2446
4. Jhansi	(i) Mauranipur (ii) Moth	1675 111	777 2451	730 667	3182 3229
5. Lakhimpur Mohammadi Kheri		550	1140	645	2335
6. Bankura	(i) Matgoda (ii) Taldangra	618 435	401 235	462 80	1481 750

4.33 Per village employment generated are not strictly comparable for obvious reasons. Generation of employment was higher in one of the selected villages of Mandya Division where seven hect. of revenue land was brought under plantation. In this village plantation rate per hect. on revenue land was one of the highest among all the relevant villages where plantation on public land was raised. As the data revealed about 60 per cent of employment was provided on site preparation and about ten per cent on actual plantation. This was mainly due to the unsuitability of soil to any plantation programme and lot of efforts had to be put forth for making soil suitable. As against this about three per cent of total employment was put in for site preparation in the selected villages in Moth Range of Jhansi Division, whereas 75 per cent of total persondays were engaged on actual plantation. In one selected village of Bhui Range where plantation was done by the Forest Department on six hect. of panchayat land, which was however made available for plantation after much persuasion, generation of employment in course of first-three years of plantation was the lowest, about 430 persondays on all operations.

4.34 In almost all cases local labour force was employed. In Nagamangla Range where work was given to the private contractors, outside labour force alongwith local people were engaged on the work. In both the Ranges of Jhansi Division where public plantations were taken up in five villages both local as well as outsiders were employed, as adequate labourers were not available in or around the villages. Land-man ratio in this region was comparatively better than that in other eastern and central U.P. districts. Hence rural unemployment was not that much acute vis-a-vis other parts in the State. The wages were paid in cash, mode of payment being weekly. Where the work was done by panchayats themselves, the wages were paid daily.

#### *Arrangements for distribution of produce*

4.35 The produce of the plantations on Government/Community pasture land had not yet started materialising. In some cases where plantations on panchayat land were raised by the Forest Department, agreements between the panchayats and the implementing agencies had been entered into with regard to ownership, maintenance and distribution of the produce. As for the plantations raised in two selected villages in Udaipur Division, the Forest Department would own the plantations for five years after which

it would be handed over to the panchayats, which would be responsible for distribution of the produce and maintenance of the plants. In Almorah Division, as per the agreement, the Forest Department would continue to own and look after the plants on panchayat land in the selected villages for ten years after which the plantations would be handed over to the concerned panchayats. The entire produce after that period would be appropriated by the panchayats for distribution as they liked. For public plantations raised on the panchayat land in Jhansi Division no arrangements between the panchayats and the agencies had been entered into. In West Bengal where the panchayats raised plantations not on community land but on hospital and school compounds in the village, no agreement as such was finalised for distribution of the produce, while the panchayats continued to be responsible for maintenance of the plantations. However, an Evaluation of Social Forestry in the State had pointed out apprehensions among the poor that benefits under the Programme would likely to be cornered by more influential persons in the Community.

4.36 The above analysis tends to show that in so far as village forestry which is an important component of the Social Forestry Programme, is concerned, the efforts made so far had been towards raising plantations on revenue/community pasture land through official agencies, whereas major thrust under the programme should have been towards raising community plantations with peoples' participation and cooperation. However, the ramifications of too much reliance on plantations raised on panchayat/community land have to be weighed carefully. Since the main objective of Social Forestry Programme is to provide fuelwood, fodder and small timber to landless labourers and poor farmers in rural areas who, by and large, are not in a position to assert their rights in our social milieu, perhaps plantations on Government revenue land for meeting fuelwood and fodder needs of these people would be more conducive to just and equitable sharing of the produce. Fruits of plantation on panchayat/community land are more likely to be appropriated by community leaders to their advantage, given the political clout and economic power they wield in our society. In any scheme of distribution of the produce of community forestry adequate safeguards to protect the interest of the rural poor and landless labourers have to be ensured. Otherwise this may lead to inter-community and inter-caste conflict in rural areas especially when the question of equitable sharing of the produce comes to the fore.

## Major species of trees planted on public land

ANNEXURE 4.1

Sl. No.	State	Major species
1	2	3
1.	Andhra Pradesh	1. Eucalyptus 2. Casuarina Equisitifolia (Casuarine) 3. Cocos Nucifera (Coconut) 4. Acacia Auriculiformis (Babul)
2.	Assam	1. Delbergia Sissoo (Shisham) 2. Tettona Grandis (Teak) 3. Gamalina Arborea (Gamar) 4. Simul 5. Acacia Auriculiformis (Babul) 6. Mangifera indica (Mango) 7. Artocarpus Indigifolia (Jackfruits)
3.	Bihar	1. Eucalyptus 2. Delbergia Sissoo (Shisham)
4.	Gujarat	1. Eucalyptus 2. Acacia Auriculiformis (Babul) 3. Albezzia Lebeck (Siris) 4. Leucaenea Leucocephala (Subabool) 5. Delonix Regia (Gulmohar) 6. Syzygium Cumini (Jamun) 7. Mangifera Indica (Mango) 8. Tamarind Indica (Imli) 9. Dendrocalamus Stictus (Bamboo)
5.	Haryana	1. Eucalyptus 2. Kassele—484 (Poplar) 3. Mangifera Indica (Mango) 4. Syzygium Cumini (Jamun)
6.	Himachal Pradesh	1. Eucalyptus 2. Bauhinia Variegata (Kachnar) 3. Terminahia Balanica (Bahera) 4. Lakooch 5. Amla 6. Morus Laevigata (Mulberry) 7. Delbergia Sissoo (Shisam) 8. Kasselie—484 (Poplar) 9. Deodar 10. Pinus Patula (Pine)
7.	Jammu & Kashmir	1. Eucalyptus 2. Leucaenea Leucocephala (Subabul) 3. Kasselie—484 (Poplar) 4. Robinia paendacacia (Kikar) 5. Julgans Regia (Walnut) 6. Willow
8.	Karnataka	1. Acacia nilotica (Babul) 2. Dendrocalamus stictus (Bamboo)
9.	Kerala	1. Eucalyptus 2. Delonix Regia (Gulmohar) 3. Casuarina Equisitifolia (Choola/Kattadi) 4. Ailanthus Triphysa (Malti)

## Annex. 4.21 —(Contd.)

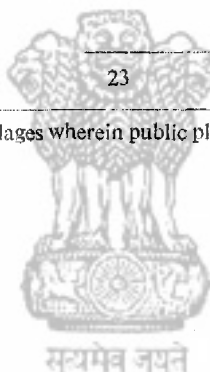
Sl. No.	State	Major species
1	2	3
10.	Madhya Pradesh	1. Eucalyptus 2. Khair 3. Acacia Auriculiformis (Babul) 4. Pomgamia Dinorata (Karanja) 5. Albezzia Lebbek (Siris) 6. Azadirachta indica (Neem) 7. Bauhinia Variegata (Kachnar) 8. Delbergia Sissoo (Shisam) 9. Dendrocalamus stictus (Bamboo)
11.	Maharashtra	1. Azadirachta indica (Neem) 2. Delonix Regia (Gulmohar) 3. Pomgamia Dinnrata ((Karanja) 4. Delbergie Sisso (Sissoo) 5. Albezzia Lebbek (Sirish) 6. Tettona grandis (Teak) 7. Khair
12.	Orissa	1. Eucalyptus 2. Acacia arabica (Babul) 3. Jacaranda 4. Delomix Regia (Delomix)
13.	Rajasthan	1. Delomix Regia (Gulmohar) 2. Pomgamia Dinnrata (Karanja) 3. Albezzia Lebbek (Siris) 4. Eucalyptus 5. Acacia auriculiformis (Babul)
14.	Tamil Nadu	1. Acacia nilotica (Babul) 2. Velvet 3. Leucaenea Leucocephala (Subabul) 4. Albezzia Lebbeck (Sirish) 5. Pungan 6. Redsanders
15.	Uttar Pradesh	1. Eucalyptus 2. Syzygium Cumini (Jamun) 3. Albezzie.lebbek (Sirish) 4. Delbergia Sissoo (Shisam) 5. Acacia auruculiformis (Babul)
16.	West Bengal	1. Delbergia Sissoo (Sissoo) 2. Gamalina Arborea (Gamara) 3. Albezzia Lebbeck (Sirish) 4. Terminaha Arjuna (Arjuna) 5. Legerstroemia speciosa (Jarul) 6. Eucalyptus 7. Asacia auriculiformis (Babul)



## Details of plantation on public/panchayat land in the selected Villages

State	Division	Range	No. of villages reporting plantation of land	Total area under plantation (Hect.)	Type of land	year of adoption
1	2	3	4	5	6	7
1. Gujarat	Bhuj	Bhuj	1	6.02	Panchayat grazing land	1982-83
2. Karnataka	Mandya	(i) Nagamangla	2	117.40	Revenue grazing land	1981-82
		(ii) Mandya	1	7.00	Do.	1981-82
3. Rajasthan	Udaipur	Parshed	2	130.00	Panchayat Waste land	1982-83
4. Uttar Pradesh	(i) Almora	(i) Almora	4	58.00	Panchayat grazing land	1982-83
		(ii) Someshwar	4	180.56	Do.	1981-82 (1) 1982-83 (3)
	(ii) Jhansi	(i) Moth	4	47.00	Do.	1982-83
		(ii) Mauranipur	1	11.30	Do.	1982-83
	(iii) Lakhimpur Kheri	Mohammedi	1	2.00	Do.	1982-83
5. West Bengal	Bankura	(i) Matgoda	2	N.A.	Market place and Primary school compound	1980-81 (1) 1981-82(1)
		(ii) Taldangra	1	N.A.	Hospital and Panchayat office compound	1981-82
Total			23	559.28		

NOTE : Figures in brackets indicate number of villages wherein public plantations were raised in the particular year.



## CHAPTER V

### BENEFICIARY HOUSEHOLDS—FARM FORESTRY

In course of the Evaluation study, detailed information was collected in a structured schedule-cum-questionnaire from the selected beneficiaries of the Farm Forestry Programme to study the extent of (i) awareness and adoption of the Programme, (ii) extension efforts made and assistance provided by the implementing agencies and others, both before and after seedlings were distributed, (iii) difficulties, if any, encountered by the adopters of the Programme in getting proper inputs and technical advice and (iv) to assess the impact of the Programme on the beneficiaries in terms of increase in availability of fuelwood, fodder and small timber both in and around the village.

#### *Problems faced in the selection*

5.2 The study design provided for the selection of five beneficiary households per selected village under Farm Forestry, as this number was considered at least the minimum that should be available in a village where any worthwhile programme of Social Forestry including Farm Forestry was initiated. But actual field situation perceived was different. In as many as 86 villages (34 per cent) the minimum number of beneficiaries to be selected was either not available, presumably because the Programme failed to take off in those areas, or the names of some of the beneficiaries selected on the basis of the records maintained by the implementing agencies were subsequently not traceable in the selected villages, presumably because they were fictitious. In a few States like Gujarat, Kerala and Madhya Pradesh, a good number of the selected farmers whose name appeared in the seedlings distribution registers, on field investigation, were found to have not received any benefits under Farm Forestry Programme. As a result, the number of beneficiaries selected not only fell short of the expected number in most of the States but also the number actually canvassed was less than the number selected. Out of 989 beneficiaries selected against 1280 as per the sampling design, 907 beneficiaries, about 92 per cent, were actually available and canvassed in the selected villages. The system of maintenance of records under the Social Forestry Programme in most of the States needed considerable improvement. Number of the beneficiaries selected on the basis of the records available vis-a-vis the number actually found in the sample villages and canvassed are given at Annex. 5.1. to this chapter.

#### *Economic and Social Status*

5.3 With a view to finding out as to what extent adoption of the Farm Forestry Programme was

induced by age, sex literacy and social status of the selected beneficiaries, data were collected in course of the study. Out of 907 sample beneficiaries canvassed 865 (95 per cent) were males and 42 females. In Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Karnataka, Uttar Pradesh and West Bengal there were no female beneficiaries, whereas in Madhya Pradesh 12 out of 14 female sample beneficiaries were in the selected Division Ratlam alone. One hundred eighty-seven sample beneficiaries (21 per cent) belonged to the age group upto 25 years, 566 (62 per cent) between 25-50 years and the rest above 50 years. The literacy among the sample beneficiaries seem to have influenced adoption of the Programme to some extent inasmuch as 602, about two-thirds of the selected beneficiaries, were literate and above. One hundred forty-three (16 per cent) were literate, 352 (39 per cent) read between primary and matriculation and 107 (12 per cent) had education above matriculation. Two hundred forty-four sample beneficiaries (27 per cent) belonged to socially weaker sections of SC and ST and another 186 (21 per cent) were member of other Backward Communities. Statewise distribution of the selected beneficiaries according to age, sex, literacy and social groups is given in the table at Annex. 5.2 to this chapter.

5.4 About two-thirds of the sample beneficiaries, 612 (67 per cent) were mainly owner/tenant cultivators, whereas 86 (10 per cent) reported agricultural labour as principal occupation. Another nine per cent of the sample beneficiaries were service holders. The rest fourteen per cent belonged to other occupation groups like non-agriculture labour, trade, shop-keeping and others. Occupationwise distribution of the sample beneficiaries is given at Annex 5.3.

#### *Year of Adoption*

5.5 Details of adoption of the plantation programme by the sample beneficiaries in different years are given in the table at Annexure 5.4. Out of 907 selected beneficiaries 777 (85.7 per cent) had taken up plantations only once and remaining 130 (14.3 per cent) repeated plantations in subsequent years also. Yearwise position of adoption of Farm Forestry for all States is as follows :

**Table 5.8 : Adoption of Farm Forestry by Simple beneficiaries**

Year	No. adopted (initial yr. of adoption)	No. adopted for one year only	No. reported plantations in subsequent year/years
1	2	3	4
1980-81	6	—	6 (100.0)
1981-82	353	268 (76.0)	85 (24.0)
1982-83	548	509 (93.0)	39 (7.0)
Total	907	777 (85.7)	130 (14.3)

(Figures in parentheses are percentages to total beneficiaries)

In initial year 1980-81 viz. the first year of the Centrally-Sponsored Programme of Rural Fuelwood Plantation (RFP), only six sample beneficiaries, three each in Gujarat & Uttar Pradesh, adopted the Programme who also repeated plantation in subsequent years. In 1981-82, the second year of the Programme, when preparatory stage was mostly over, there was a surge in the number of adopters in as much as 353 (39 per cent) out of 907 sample beneficiaries had adopted the Programme for the first time. This tend to show that the programme gradually started catching imagination of the people as more and more farmers became interested in the plantation programme. Out of 353 adopters of the Programme in 1981-82, 85 (24 per cent) repeated the Programme in subsequent years also. Number of the selected adopters ranged between 35 and 58 in Assam, Gujarat, Haryana, Himachal Pradesh, Karnataka, Orissa, Tamil Nadu & West Bengal. In as many as six out of the above eight States all the selected beneficiaries adopted the Programme in 1981-82, whereas in Karnataka and Orissa, ratio of the selected beneficiaries who adopted the Programme in 1981-82 was 52 and 49 per cent respectively. The Programme failed to take off in the selected villages in six States of Andhra Pradesh, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh and Maharashtra in 1981-82 as there were no adopters of Farm Forestry Programme. In Rajasthan only one farmer adopted the Programme in 1981-82. In Jammu & Kashmir Centrally-Sponsored Programme of Rural Fuelwood Plantation was, however, not implemented. In 1982-83 though adoption amongst the sample beneficiaries in terms of number was highest viz, 548 (60 per cent) out of 907, only 39 out of them repeated plantation in 1983-84. All the selected beneficiaries in Andhra Pradesh, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh and Maharashtra adopted the programme in 1982-83 and out of them 27 repeated plantations in 1983-84,

### *Involvement of Family members in the Programme*

5.6 Out of 907 selected beneficiaries 671 (74 per cent) reported involvement of adult male family members in Farm Forestry work, whereas another 226 (25%) had female members who worked on Farm Forestry. Extent of participation of the family members in Farm Forestry operations in terms of percentage of total working member in the family is as follows:

**Table 5.2 : Involvement of Family Members in Farm Forestry Work.**

Percentage of family members who worked on Farm Forestry	No. of households reported involvement of family members in farm forestry			
	Male adults		Female adults	
	No.	Per cent	No.	Per cent
1	2	3	4	5
Less than 50 per cent	164	24.4	32	14.2
50 to less than 100 per cent	206	30.7	83	36.7
100 per cent	301	44.9	111	49.1
Total	671	100.0	226	100.0

Out of 671 selected beneficiaries reporting involvement of the adult male family members in Farm Forestry, 301 (45 per cent) reported participation of all male members in the plantation work, whereas another 164 (24 per cent) and 206 (31 per cent) selected beneficiaries reported participation of less than 50 per cent and 50 per cent to less than 100 per cent respectively of all adult male family members. Among the selected beneficiaries reporting participation of the female family members in Farm Forestry, in 111 cases (49 per cent) all female adult members participated in the Programme, while in another 115 cases (51 per cent) the female participation was less than 100 per cent of the female members.

5.7 Statewise distribution of the selected beneficiaries according to percentage of the family members who worked on Farm Forestry is given in the table at Annex 5.5. In Gujarat and Himachal Pradesh all selected beneficiaries reported involvement of all male family members in Farm Forestry work. In Andhra Pradesh, Bihar, Haryana, Karnataka, Rajasthan & Uttar Pradesh, more than 90 per cent of the adult male members in the family participated in the plantation work. In two States, Assam and Jammu & Kashmir, no male family members of the selected beneficiaries worked on Farm Forestry. In Assam, the number of plants per selected beneficiary was very few and hence, there was practically no involvement of family members in the plantation work, whereas in Jammu & Kashmir Farm Forestry was adopted by the selected beneficiaries with the help of hired labourers. In other six States—Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu and West Bengal—the extent of participation of the male members ranged bet-

ween 85 per cent in Kerala and 38 per cent in Maharashtra. As regards extent of participation of the female family members, Haryana reported highest percentage (67 per cent), followed by Maharashtra (64 per cent). In Assam, Jammu & Kashmir, Orissa and West Bengal, no female member of the selected households worked on Farm Forestry. In Andhra Pradesh also there was practically no participation of the female family members in the plantation work. In other States, the extent of participation of the female family members ranged between 55 per cent in Rajasthan and 10 per cent in Bihar.

#### Utilisation of sites

5.8 In order to find out the trend of utilisation of the possible sites for Farm Forestry, data were collected in course of the study. The table at Annex. 5.6 gives details of plantations raised on different sites during 1980—84. Two hundred twenty-two (24.5 per cent) selected beneficiaries had raised plantations on agricultural land only, whereas another 657 (72.4 per cent) on boundaries and backyards. Only 28 (3.1 per cent) beneficiaries had plantations on both sites. Six beneficiaries each from Gujarat and Jammu & Kashmir and five each from Himachal Pradesh and Uttar Pradesh raised plantations on both sites. In West Bengal three and in Bihar, Karnataka and Kerala, one respondent each grew plantations on both sites, whereas in seven States—Andhra Pradesh, Assam, Haryana, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu—the selected beneficiaries had raised plantations either on farm land or on backyards and boundaries. In Maharashtra, all the selected beneficiaries raised plantations on backyards and boundaries only. In West Bengal, 35 beneficiaries had raised plantations on farm land as against 20 growing plantations on backyards and boundaries, whereas in Gujarat and Karnataka the number was evenly distributed between the two categories. In the remaining States, number of beneficiaries who raised plantations on backyards and boundaries far outnumbered those raising plantations on farm land.

5.9 Out of 907 selected beneficiaries, 836 (92.2 per cent) had agricultural holding of varying sizes, whereas only 250 (30 per cent) raised plantations on a part of their agricultural holdings. Statewise distribution of the selected beneficiaries by two categories of the size of holdings viz. less than two hec. and two hec. and above, is given at Annex. 5.7. Four hundred (47.8 per cent) respondents had cultivated land up to two hec. each and 436 (52.2 per cent) had holding to two hec. and above. The two categories were almost evenly distributed in Andhra Pradesh, Assam, Rajasthan and Tamil Nadu. In Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal number of the selected beneficiaries were decidedly higher in the higher bracket of holdings, whereas number of the selected beneficiaries in lower category of holdings was higher in Bihar, Haryana, Jammu & Kashmir, Karnataka and Orissa.

#### Plantation Programme on Cultivated Land

5.10 The selected beneficiaries who raised plantations on farm land during each of the years 1980-81

to 1983-84 had covered a total area of 139.1 hec. under plantations. The yearwise position is as follows :—

Table 5.3 : Yearwise area brought under Farm Forestry

Year	No. reported plantations on cultivated holdings	Total area under Farm Forestry (Hect.)	Average holding under Farm Forestry (Hect.)
1	2	3	4
1980-81	4	7.9	1.98
1981-82	144	77.1	0.54
1982-83	126	38.5	0.30
1983-84	32	15.6	0.49
All Years	306	139.1	0.45

As already shown at Annex 5.6, 250 selected beneficiaries had adopted Farm Forestry either on farm land or on boundaries, backyards and farm and over the period 1980—84. Some of them had raised plantations in more than one year. The total number of plantations were 306 as given in the table above. The average area per plantation at the end of 1983-84 was 0.45 hect. whereas the average area under Farm Forestry per selected beneficiary was 0.56 hect. The Statewise and yearwise figures of total area and average area per beneficiary household covered under Farm Forestry is given at Annex 5.8. The highest average area Farm Forestry was reported by the selected beneficiaries from Gujarat in all the years 1980—84. In 1981-82 the next highest average area was reported by the selected beneficiaries from Karnataka and in 1982-83 & 1983-84 from West Bengal.

#### Diversion of Crop Land to Farm Forestry

5.11 During the course of the Evaluation Study, data were collected to find out as to what use the area brought under plantations was put earlier and especially, whether the land was earlier being used for raising crops. The table below shows yearwise diversion of cropped as well as uncultivated land to Farm Forestry.

Table 5.4 : Diversion of land to Farm Forestry

Year	No. reported Farm Forestry on cultivated holding	No. reported diversion from cropped area	No. reported diversion from uncultivated area
1	2	3	4
1980-81	4	2	2
1981-82	144	(50.0) 81	(50.0) 63
1982-83	126	(56.2) 68	(43.8) 58
1983-84	32	(54.0) 18	(46.0) 14
All Years	306	(56.2) 169	(43.8) 137

(Figures in brackets are percentages to total).

One hundred sixty-nine (55.2 per cent) selected beneficiaries raising plantations on farm land had diverted cropped area to plantation, whereas another 137 (44.8 per cent) had used other area for Farm Forestry which was not cultivated earlier. The State-wise details of shift from various types of crops are given two beneficiaries from Gujarat who had diverted at Annex 5.9. In 1980-81 there were only two beneficiaries from Gujarat who had diverted 3.8 hec. to Farm Forestry on which cereals and oilseeds were grown earlier. In 1981-82 out of 81 selected beneficiaries in Seven States, Gujarat, Haryana, Himachal Pradesh, Karnataka, Tamil Nadu, Uttar Pradesh and West Bengal, who had diverted crop land to Farm Forestry, 87.6 per cent had diverted land on which cereals were grown earlier, 39.5 per cent diverted pulses growing land, 30.9 per cent diverted oilseeds growing land and 20 per cent diverted land on which other crops were grown. Almost similar trend was observed in other years, except in case of Jammu & Kashmir, where all the four beneficiaries had diverted area from other crops in 1982-83.

5.12 Yearwise diversion of cropped area to the plantation under Farm Forestry by the sample beneficiaries is as follows :

Table 5.5 : Diversion of cropped Area to Farm Forestry.

Year	Total area of farm land under Farm Forestry (Hect.)	Total area shifted from cropped area (Hect.)
1	2	3
1980-81	7.9	3.8 (48.1)
1981-82	77.1	47.2 (61.2)
1982-83	38.5	15.1 (39.2)
1983-84	15.6	11.2 (71.8)
All Years	139.1	77.3 (55.6)

(Figures in brackets are percentages).

Taking overall picture of the area under Farm Forestry and the total shift, it was observed that 55.6 per cent of the area was earlier being utilised for raising different crops. Diversion of cropped area to Farm Forestry, as far as the selected beneficiaries are concerned, was highest in 1981-82 viz. 47.2 hec. out of 77.1 hec. brought under plantations. Thereafter, diversion of cropped land to Farm Forestry by the selected beneficiaries were 15.1 and 11.2 hec. out of 38.5 and 15.6 hec. in 1982-83 and 1983-84 respectively. In 1983-84 plantation on cropped land were raised only by those beneficiaries who had earlier adopted Farm Forestry Programme. This indicated that the selected beneficiaries were gradually becoming more interested in diverting cropped area to more remunerative uses of raising plantations under Farm Forestry.

5.13 Statewise diversion of cropped land to Farm Forestry during 1980-84 is given in the table at Annex 5.10. The sample beneficiaries from eight States had reported substantial diversion of cropped area to Farm Forestry viz. Andhra Pradesh (83.3 per cent), Gujarat (87.4 per cent), Haryana (69.0 per cent), Karnataka (73.4 per cent), Orissa (100 per cent), Rajasthan (75.5 per cent), Tamil Nadu (82.1 per cent) and Uttar Pradesh (61.2 per cent). It was further observed that all those who had diverted cropped area to plantations had raised the Eucalyptus in the hope of more remunerative return at a later date without any risk of damage inherent in the cultivation of other agricultural crops. Though Farm Forestry is essentially an experiment in mixed cultural practices, information about possible effects of Farm Forestry, especially wide-spread planting Eucalyptus, on other agricultural crops is lacking. However, if this trend continues and the farmers continued to divert cropped area for growing Eucalyptus and other species for commercial purposes, the area under crops, especially under cereals and oilseeds grown under rainfed conditions, may get substantially reduced in near future. Division of cropped area to tree plantations may also have its adverse effects, for tree plantations on a wide scale may shrink employment opportunities of agricultural labourers. Such a situation would not be conducive to greater economic stability in the rural area and therefore, perhaps may not be desirable from social point of view. However, to substantiate any such conclusions on a broad scale, there is need to undertake a bigger study for analysing different risk-return combinations of growing different crops, vis-a-vis planting of trees in a wider area.

#### Awareness

5.14 Out of 907 sample beneficiaries 621 (68.5 per cent) reportedly learnt about the Programme through the Forest Department. Another 241 (26.6 per cent) became aware of the Programme through fellow cultivators. The relative prevalence of different agencies in the dissemination of knowledge of Farm Forestry among the sample beneficiaries is as follows :

Table 5.6 : Sources of Knowledge about Farm Forestry

Agency	Number of respondents reporting	Percentage to total respondents
1	2	3
1. Forest Department	621	68.47
2. Fellow cultivators	241	26.57
3. Radio/TV/Newspapers	137	15.10
4. Relatives	101	11.14
5. Bloc Agency	44	4.85
6. Pamphlets/Handouts	20	2.21
7. Others	147	16.21

Some of the selected beneficiaries reported awareness through more than one agency. The Statewise position is given in the table at Annex 5.11. In most of the States the Forest Department played a

vital role as the prime agency for spreading the knowledge of Farm Forestry, as evident from preponderance of the number of sample beneficiaries reportedly became aware of the Programme through them. In Kerala, Orissa, Uttar Pradesh & West Bengal, however, the role of the Forest Department in disseminating the knowledge of Farm Forestry was not spectacular inasmuch as more than 50 per cent of the sample beneficiaries came to know about the Programme through other agencies. The next relative importance of fellow cultivators as source of the knowledge of Farm Forestry was well-maintained in Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Karnataka, Rajasthan, Tamil Nadu and West Bengal. In Assam, Haryana and Orissa, relatives played a significant role in disseminating the knowledge of Farm Forestry amongst the sample beneficiaries, whereas mass-media like Radio/T.V. and Newspapers alone was instrumental in making 78 per cent of the sample beneficiaries aware of the Programme in Jammu & Kashmir.

#### *Intensity of extension work by different agencies*

5.15 The test of efficacy of various agencies in spreading the message of Farm Forestry depends on the intensity of contact in terms of coverage established with the farmers. The Statewise position is brought out in the table at Annex 5.12. Seventy-six (8.4 per cent) sample beneficiaries adopted the Programme on their own without having to contact any agencies, neither any agencies contacted them for adoption of the Programme. Another 283 sample beneficiaries (31.2 per cent) reported to have contacted different agencies themselves, whereas 548 (6.4 per cent) were approached by the different agencies for adoption of the Programme. Maximum number of the adopters (86.9 per cent) were contacted by the officials of the Forest Department which tend to establish beyond doubt primacy of this agency in the matter of persuading the farmers to adopt the Programme, whereas only 95 adopters (17.3 per cent) were reportedly approached by fellow cultivators for adoption of the Programme. As the data at Annex 5.11 depict, 241 (26 per cent) sample beneficiaries reported to have become aware of the Programme through fellow cultivators. Some only 95 of them were actually persuaded by fellow cultivators, 146 or about 60 per cent of them adopted Farm Forestry on their own after having learnt about the Programme from fellow cultivators.

5.16 In Gujarat, Kerala, Tamil Nadu, Uttar Pradesh & West Bengal 33 per cent, 50 per cent, 18 per cent, 17 per cent and 24 per cent of the sample beneficiaries respectively adopted the Programme on their own without contact by self or by any agency. In Assam, about two-thirds and in Orissa, 90 per cent of the sample beneficiaries took initiative in contacting different agencies for information and knowledge about the Programme. Ratio of such respondents was about 40 per cent in Andhra Pradesh and Bihar, a little less than 40 per cent in Kerala & Madhya Pradesh and about 30 per cent in Rajasthan and West Bengal. As regards

relative importance of different agencies in spreading the message of Farm Forestry in different States, the Forest Department was at the top position in all the States, except Bihar and Kerala, where the top position was held by fellow cultivators and Agriculture/Cooperation/Panchayat Departments respectively. The Block agency did not contact any sample beneficiaries in Assam, Bihar, Haryana, Himachal Pradesh, Jammu & Kashmir, Orissa, Tamil Nadu & West Bengal for adoption of Farm Forestry, whereas in other seven States their role in disseminating the knowledge of Farm Forestry to farmers was minimal.

5.17 The above data bring to the fore the very insignificant role played by the Block agency in almost all the States in spreading the message of the Farm Forestry Programme. It appears that extension efforts on their part in rural areas was almost lacking in most of the States. There should be greater involvement of the Block agency who are at the grass-roots in rural areas, in Social Forestry. They being in close contact with the farmers, vigorous extension efforts by them would perhaps result in more and more peoples' participation in the Programme in areas where people are still not well aware of the existence of the Programme.

5.18 In order to study the efforts made by different agencies for persuading the farmers to adopt Farm Forestry, data were collected to find out the frequency of contact various agencies established with the sample beneficiaries before they could be persuaded to adopt the Programme. Out of 548 sample beneficiaries who were contacted by any agency, about one third adopted the Programme after being contacted only once, whereas 271 (49.4 per cent) reported to have been contacted two to three times before they adopted the Programme. Fifty-nine (10.8 per cent) sample beneficiaries had to be contacted four to five times and 29 (5.3 per cent) needed to be contacted more than five times before being persuaded to adopt the Programme. The States where very little persuasion was needed were Assam and Kerala where all the respondents needed to be contacted only once before they adopted the Programme. In Andhra Pradesh, Bihar, Madhya Pradesh & Orissa more than 50 per cent of those needed to be contacted for adoption reported that they had taken up the Programme after they were contacted by the agencies only once. In other States greater efforts were needed to persuade the respondents to adopt the Programme. Maximum efforts of persuasion were required in Gujarat & Karnataka where sizeable percentage of the sample beneficiaries had to be contacted repeatedly before they took up the Programme. The Statewise position is given in the table at Annex 5.13.

#### *Reasons for adoption*

5.19 With a view to studying the motivation for adopting the Programme, the selected beneficiaries were asked about the reasons for taking up the Programme with maximum choice of three major reasons.

The summary of reasons for taking up Farm Forestry is as follows :

Table 5.7 : Reasons for adoption of Farm Forestry.

Reasons	Number reported	Percentage to total respondents
1	2	3
1. To get small timber	496	54.69
2. To get Fuel	464	51.16
3. To earn extra income	307	33.85
4. To get fruits	139	15.33
5. To get fodder	118	13.01
7. To check soil erosion	27	2.98
Others	100	11.03

Of 907 selected beneficiaries 496 (54.7 per cent) were attracted to the Programme by the prospect of getting small timber, whereas 464 (51.2 per cent) reported easy availability of fuel as one of the cardinal reasons for adoption of the Programme. Prospects of extra income seem to have motivated 307 (33.8 per cent) sample beneficiaries to adopt the Programme. Although 89 per cent of the respondents had a number of livestock each, only 118 (13 per cent) reported having taken up the Programme for the sake of easy availability of fodder. This amply tends to show that most of the sample beneficiaries procured fodder for their animals from non-commercial sources and therefore the prospect of easy availability of fodder free of cost did not weigh much with them in adopting Farm Forestry.

5.20 Although the prospect of easy availability of small timber was cited as one of the major reasons by 54.7 per cent of the respondents, in five States, Gujarat, Haryana, Himachal Pradesh, Kerala and Maharashtra such consideration took a back seat. In Haryana and Himachal Pradesh more than 90 per cent of the sample beneficiaries were attracted to the Programme on commercial consideration to earn extra income. In Gujarat and Uttar Pradesh also more than 50 per cent of the respondents had adopted the Programme to earn extra money. Easy availability of fuel wood was reported to be one of the major reasons for adopting the Programme by the sample beneficiaries in Assam (68.6 per cent), Jammu & Kashmir (97.5 per cent), Kerala (44.1 per cent), Madhya Pradesh (72.4 per cent), Uttar Pradesh (68.2 per cent) and West Bengal (70.7 per cent). In Jammu & Kashmir 62.5 per cent of the respondents also reported easy availability of fodder as the main reason for adoption of the Programme. Statewise details regarding the reasons for taking up the Programme are given at Annex 5.14.

#### Nature of Extension Advice

5.21 The extension agencies have an important role to play for propagating Social Forestry Programme on the farmers' field and making it more popular. The methods followed for imparting the knowledge about Farm Forestry is an important index of the extension efforts made. In order to find out

the agencies which were mostly responsible for propagation of the programme and the methods which suited to the local requirements, data were collected in course of the study on the following aspects of different processes of plantations.

- (i) Appropriateness of the season for undertaking plantations.
- (ii) Site preparations.
- (iii) Selection of plants.
- (iv) Methods of plantation including spacing.
- (v) Application of fertilisers and insecticides.

The field-study revealed that more than 75 per cent of the selected beneficiaries had been tendered advice by one agency or the other on appropriateness of the season, site preparations, selection of plants and methods of plantation including spacing, whereas about 57 per cent of them were advised on proper application of fertilisers and insecticides. About 80 per cent of the respondents who were given advice by different agencies, received advice from the personnel of the Forest Department. The other agency which played a role worth mentioning in this regard was fellow cultivators and relatives, as about 21 per cent to 23 per cent of the sample beneficiaries reportedly received advice from them on various processes of plantation. Details regarding advice rendered to selected beneficiaries on different processes of plantations are given in the table on next page.

5.22 Statewise details of the advice tendered, methods followed for giving the advice and number reporting usefulness/non-usefulness of the advice are given in the tables at Annex 5.15 to 5.19. As for individual States, in eleven States—Bihar, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal—more than two-thirds of the respondents, by and large, were advised by one agency or other on appropriateness of the reason, site preparations, selection of plants and methods of plantation. In other five States—Andhra Pradesh, Assam, Gujarat, Kerala and Madhya Pradesh—the ratio of the respondents advised varied between three per cent in Assam and Kerala and a little over sixty per cent in case of Andhra Pradesh, Gujarat and Madhya Pradesh. As regards the advice on methods of plantation including spacing, only four States reported less than 75 per cent response from the selected beneficiaries, such as Andhra Pradesh (38.1 per cent), Assam & Kerala (2.9 per cent) and Gujarat (60.3 per cent). Insofar as the advice on application of fertilisers and insecticides is concerned, there were only five States viz. Haryana, Himachal Pradesh, Jammu & Kashmir, Rajasthan and West Bengal, where more than 80 per cent of the respondents received such advice by one agency or the other. In other States the percentage of response varied between zero in case of Assam and Kerala to as high as sixty-nine in case of Bihar. The Forest Department was pre-eminently the most important agency in the matter of tendering advice on various aspects of the Programme inasmuch as about 80 per cent of the respondents received advice from



them in most of the States. In Bihar almost equal proportion of the selected beneficiaries were advised by the Forest Department and fellow cultivators on appropriateness of the season and site preparations, whereas in Orissa more beneficiaries reported to have

been advised by fellow cultivators and relatives on plant selection, methods of plantation including spacing and fertilisers and insecticides application, than those advised by the Forest Department Officials.

Table 5.8 Agencies advising, nature of advices and methods of advice followed

Nature of advice	No. of selected beneficiaries	No. reporting agencies advising				No. reporting method of advice				No. report in 8 methods of advice	
		Any agency	Forest department	Fellow cultivators & relatives	Others	Any method	Meetings/group discussion	Individual persuasion	Others	Useful	Not-useful
1	2	3	4	5	6	7	8	9	10	11	12
1. Appropriate season for undertaking plantation . . . . .	907	717 (79.1)	567 (79.1)	165 (23.0)	146 (20.4)	704 (77.6)	340 (48.3)	357 (50.7)	102 (14.5)	692 (98.3)	12 (1.7)
2. Site preparation . . . . .	907	695 (76.6)	553 (79.6)	161 (23.2)	45 (6.5)	689 (76.0)	313 (45.4)	338 (48.8)	132 (19.2)	671 (97.4)	18 (2.6)
3. Selection of plants . . . . .	907	391 (76.2)	545 (78.9)	161 (23.3)	41 (5.9)	679 (74.9)	294 (43.3)	360 (53.0)	109 (16.1)	664 (97.8)	15 (2.2)
4. Method of plantation including spacing . . . . .	907	691 (76.2)	577 (83.5)	143 (20.7)	33 (4.8)	690 (76.1)	297 (43.0)	326 (47.2)	167 (24.2)	654 (94.8)	36 (5.2)
5. Application of fertilisers and insecticides . . . . .	907	513 (54.6)	409 (79.7)	111 (21.6)	28 (5.6)	508 (56.0)	262 (51.6)	230 (45.3)	86 (16.9)	459 (90.4)	49 (9.6)

Fig. in brackets in Cols. 3 & 7 are percentages to total in Col. 2.

Fig. in brackets in Cols. 4 to 6 are percentages to total in Col. 3.

Fig. in brackets in Cols. 8 to 12 are percentages to total in Col. 7.

5.23 For dissemination of the knowledge, the method most commonly used was individual persuasion on all items of work, except for application of fertilisers and insecticides. In majority of the cases such advice was given at meetings and group discussions. Looking across the States, in Andhra Pradesh, Assam, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala and Madhya Pradesh, maximum number of the selected beneficiaries were tendered advice through meetings and discussions on appropriateness of the season, site preparation, selection of plants and methods of plantation including spacing. In five States, Bihar, Maharashtra, Orissa, Rajasthan and Tamil Nadu, individual contact and persuasion was reported by maximum number of the beneficiaries. In Uttar Pradesh and West Bengal the selected beneficiaries reported other methods like showing of films/photographs, demonstrations and distribution of pamphlets and handbills etc. as the most popularly used methods for tendering advice on first four items of

work. Regarding application of fertilisers and insecticides, individual persuasion was reported by majority of the respondents from Bihar, Orissa, Rajasthan & Tamil Nadu, where as film shows and distribution of pamphlets and handbills were mostly resorted to in West Bengal. In the remaining eleven States, advice on application of fertilisers and insecticides was imparted through meetings and group discussions.

5.24 The respondents who were tendered advice on various aspects of the plantation work, by and large, considered such advice useful. In about two to five per cent cases the respondents did not consider such advice useful with regard to appropriateness of the season, site preparation, selection of plants and methods of plantation including spacing. About ten per cent of the respondents who were given advice on application of fertilisers and insecticides did not consider such advice useful. Some of the selected beneficiaries also suggested measures for



making advice more useful which are summarised below :

Table 5.9 Suggestions to make advice more useful

Advice on Item of work	No. reported suggestions				
	Pamphlet/hand bills need be distributed	Practical demonstration need be given	Filmshows should be arranged	Some officials should be readily available for guidance	Others
1	2	3	4	5	6
1. Appropriateness of the season	2	2	1	3	6
2. Site preparations	—	10	5	13	—
3. Selection of plants	2	1	—	—	12
4. Methods of plantation including spacing	—	26	9	19	—
5. Application of fertilisers & insecticides	2	26	5	23	21
Total	6	65	20	58	39

Most of the respondents considered that more practical demonstrations should be organised for better understanding and knowledge about the Programme. A sizeable proportion of them also suggested that some officials should be regularly available for advice on follow up measures.

#### Directions given on advance site preparations

5.25 The adopters of Farm Forestry were given directions on advance site preparations and other related work pertaining to plantation of trees. Number of the selected beneficiaries who followed/did not follow directions and major reasons for not following directions are given in the table on next page.

Table 5.10 : Directions on advance site preparations and reasons for not following directions

Item of work	Number given directions on	Number followed directions	Number not followed directions	Reasons for not following directions (No. reported)					
				Not convinced	Lack of finance	Non-availability of manure fertiliser & insecticides	Scarcity of water for irrigation	Indifferent attitude	Others
1	2	3	4	5	6	7	8	9	10
1. Clearing the unwanted growth.	678	666 (98.2)	12 (1.8)	6 (50.0)	—	—	—	2 (16.7)	4 (33.3)
2. Digging of pits	686	617 (90.0)	69 (10.0)	8 (11.6)	8 (11.6)	—	—	21 (30.4)	35 (50.7)
3. Putting manures, fertilisers & insecticides	531	433 (81.5)	98 (18.5)	13 (13.3)	53 (54.1)	22 (22.4)	15 (15.3)	13 (13.3)	13 (13.3)
4. Planting	704	684 (97.2)	20 (18.8)	6 (30.0)	—	—	—	10 (50.0)	5 (25.0)
5. Watering	672	545 (81.1)	127 (18.9)	1 (0.8)	9 (7.1)	—	112 (88.2)	10 (7.8)	16 (12.6)

Figures in brackets in Cols. 3 & 4 percentages to Col. 2.

Figures in brackets in Cols. 5 to 10 are percentage to Col. 4.

5.26 As the data reveal, directions on clearing the unwanted growth and proper way of planting were followed by almost all the respondents who were given such directions, whereas ten per cent of the respondents did not follow direction on digging of pits. Directions on putting proper doses of manures, fertilisers and insecticides as well as on watering were not followed by about 19 per cent of the sample beneficiaries each, comprising 98 and 127 respectively. In the States where a sizeable number of the respondents, given directions on digging of pits, did not follow

directions, were Karnataka (18 per cent) Orissa (55 per cent) and West Bengal (27 per cent). In Rajasthan and Tamil Nadu about one-third of the selected beneficiaries who were given directions on proper doses of manures, fertilisers and insecticides did not follow such directions. As for directions on watering, a sizeable number of the respondents, given directions in quite a number of States, ranging from 76 per cent in Orissa to 36 per cent in Himachal Pradesh, did not follow directions mainly for lack of water. Among other major reasons for not following directions, on putting

manures, fertilisers and insecticides 53 (54 per cent) respondents reported lack of finance, whereas another 22 (22 per cent) could not follow directions on account of non-availability of inputs. One hundred and twelve (88 per cent) respondents reported scarcity of water for irrigation being the main reason for not following directions on watering. Quite a few respondents who did not follow any directions displayed indifferent attitude towards the directions given. The instance of indifferent attitude towards directions on site preparations and other allied matters were mostly perceived in one of the selected ranges in Orissa. High incidence of indifferent attitude amongst the adopters of Farm Forestry reflected lack of effective extensions efforts on the part of the implementing agencies which failed to imbibe interest in them to an appreciable extent. Statewise distribution of sample beneficiaries given directions on different items of work and reasons for not following directions are given in the tables at Annexes 5.20 to 5.24.

#### *Type and suitability of Soil*

5.27 With a view to finding out as to how far Farm Forestry was adopted on the usual soil in the selected villages, specific questions were asked. Statewise distribution of the sample beneficiaries showing the type of soil on which plants were raised, its suitability/unsuitability and reasons for not informing the implementing agencies about unsuitability of the soil are given at Annex 5.25. The Evaluation study revealed that 643 (71 per cent) sample beneficiaries planted trees on the usual soil of the area, whereas the remaining 264 (29 per cent) adopted Farm Forestry on sandy marshy/water logged, stony and other types of soil. In Assam and Kerala all sample beneficiaries raised plants on the usual soil of the area whereas in eight States—Andhra Pradesh, Bihar, Haryana, Jammu & Kashmir, Karnataka, Madhya Pradesh, Tamil Nadu & Uttar Pradesh—percentage of sample beneficiaries who planted trees on the usual soil varied between 75 per cent and 98 per cent. Amongst other States, ratio of such beneficiaries varied between 28 per cent in Rajasthan and 66 per cent in Gujarat, while in Himachal Pradesh not a single beneficiary planted trees on the usual soil of the area. In this State, 30 out of 33 sample beneficiaries raised plantations on stony soil. A fairly good number of the beneficiaries in Maharashtra and Rajasthan also had planted trees on stony soil.

5.28 Only 62 (7 per cent) sample beneficiaries reported that the soil on which plants were raised was not suitable for the species planted. The maximum number of the respondents who reported that soil was not suitable for species planted were from Gujarat (37.9 per cent) followed by West Bengal (13.8 per cent). In five States—Assam, Bihar, Himachal Pradesh, Kerala and Madhya Pradesh—all respondents considered the soil suitable for the species planted. In other States also the ratio of such respondents who considered the soil being unsuitable for the species planted was also quite insignificant. An interesting feature brought out by the field study was that 40 out of 62 (65 per cent) res-

pondents who considered land unsuitable for the species planted did not report the matter to the implementing agencies for any corrective measures. In Andhra Pradesh, Haryana, Jammu & Kashmir, Karnataka, Maharashtra, Orissa, Tamil Nadu and Uttar Pradesh, none of the respondents who considered the soil unsuitable for planting the species reported the fact to the implementing agencies, presumably, being not convinced that such reporting would be of any help to them. In the remaining States also, 25 per cent of 45 per cent of the respondents who considered the soil unsuitable did not report the matter. The major reasons put forth being lack of initiative on the part of the respondents (34 per cent) and lack of time (19 per cent).

#### *Sources of input supplies, distance travelled for procuring seedlings*

5.29 Five hundred eightysix sample beneficiaries (65 per cent) who applied inputs like manure, fertilisers and insecticides obtained supplies from any sources, including own supply. About 50 per cent of them procured inputs from open market, whereas another 44 per cent had their own supplies. Only 6 per cent (38 out of 586) procured inputs from the Forest Department and only three (0.5 per cent) from the Block office. In West Bengal 34 out of 52 (65 per cent) sample beneficiaries received inputs like chemical fertilisers as subsidy from the Forest Department under Externally Aided Programme. Statewise details are given in the table at Annex 5.26.

5.30 The Nurseries maintained by the Forest Department was the principal source of supply of seedlings in as much as 884 (97.5 per cent) sample beneficiaries procured seedlings from the Forest Nurseries. The supply was in time, as reported by 874 (96.4 per cent) respondents, while another 33 (3.6 per cent) reported supply being not in time. Statewise distribution of the sample beneficiaries according to the distance travelled for collecting seedlings from the sources of supply, transport difficulties faced & suggestions for overcoming transport difficulties are given in the table at Annex 5.27. Only 111 (12 per cent) sample beneficiaries received seedlings at the door step in the village. Maharashtra reported highest percentage (62 per cent) of the respondents who received seedlings at the door step, whereas in Assam, Himachal Pradesh, Karnataka, Orissa and West Bengal no respondent received seedlings at the door step. In Andhra Pradesh, Gujarat and Rajasthan ratio of the respondents who received seedlings in the village was 26 per cent, 29 per cent and 24 per cent respectively. In other States only a small fraction of the respondents received such facilities. Seven hundred eighty two (86 per cent) sample beneficiaries had to travel one km. and above, out of which 380 (42 per cent) had to wend their way beyond five kms. to collect seedlings. As for individual States, in Jammu & Kashmir 34 out of 40 (85 per cent) respondents had to walk more than five kms. for collection of seedlings. In Bihar, Karnataka, Madhya Pradesh, Rajasthan and West Bengal more than 50 per cent of the respondents had to travel more than five kms. Two

hundred Seventy Seven (31 per cent) respondents travelled between one and three kms. More than 60 per cent of the respondents from Assam, Haryana, Himachal Pradesh and Kerala fell within this category. A little over one-third of the respondents reported transport difficulties in collecting seedlings from distant sources. To cut down long walking time 212 (66 per cent) respondents suggested that seedlings should be made available at the plantation sites, whereas 106 (33 per cent) made specific suggestions for setting up more nurseries so that seedlings could be made available within easy reach. Eighty six (27 per cent) respondents also suggested that more supply points be opened.

5.31 As indicated in earlier chapter, the existing nurseries were hardly adequate to meet the requirement of seedlings from the farmers in the vast areas each one had to cover. If the Programme has to make rapid progress it is essential that seedlings be made available to the farmers, if not in the villages, at least within a reasonable distance. The situation calls for opening of more nurseries in rural areas so that seedlings are made available within a reasonable distance from the plantation sites.

5.32 *Priced supply of seedlings*—In 13 States seedlings were distributed free to the selected beneficiaries under Farm Forestry. Out of the remaining three States, in Himachal Pradesh seedlings were supplied at uniform ten paise per plant to the respondents. In Tamil Nadu 23 out of 45 selected beneficiaries reportedly paid 25 to 30 paise per seedling. However, the rates at which seedlings were supplied, as reported at the respondents' level, were at variance with the rates reported by the selected Nurseries. In Chingleput Division, the seedlings were supplied by the selected Nurseries free to IRDP cardholders and ten paise per plant realised from others whereas in Krishnagiri Division supply from the selected Nurseries was free upto 500 plants per farmer and thereafter fifteen paise per plant was charged. As different pricing policy for supply of seedlings were reported at the beneficiaries and at the selected Nurseries' level, the

matter needs to be further looked into. In Uttar Pradesh 53 out of 63 (84 per cent) selected beneficiaries reported supply of seedlings at ten to twenty paise per plant. In this State, however, the rates charged for supply of seedlings, as reported by the selected Nurseries was not different.

5.33 As the above data show, almost all the States followed the policy of free supply of seedlings to individual farmers, if not in unlimited quantity, at least upto a certain limit. In a few States, however, all the selected beneficiaries did not report a uniform seedlings distribution policy. Even in the same selected Division in a few States some of the selected beneficiaries had reported free supply whereas others reported priced supply. Such dual policy of distribution of seedlings to individual farmers is not conducive to developing farmers' interests in the Programme. As already suggested in earlier chapter, seedlings to small, marginal farmers and other weaker sections of the community should be supplied free upto a certain limit and beyond that seedlings supply should be priced.

5.34 The seedlings were supplied in polythene bags to most of the selected beneficiaries in all the States, except in Jammu & Kashmir, where polythene bags were not required. In other States also a few beneficiaries reported to have not received seedlings in polythene bags. Twelve respondents from Gujarat and three from Madhya Pradesh reported short supply of polythene bags. Twentyone other respondents from Gujarat, Karnataka, Kerala and Uttar Pradesh also did not get seedlings in polythene bags.

5.35 Of 907 selected beneficiaries only 78 in twelve States reported that the plants were not of good quality. In four States—Andhra Pradesh, Assam, Haryana & Uttar Pradesh—all the selected beneficiaries were satisfied with the quality of seedlings. In other 12 States quality was not reported good by some of the respondents and the defects were specified. The relative position is as follows :

Table 5.11 : Defects in the seedlings supplied.

State	Number of selected beneficiaries	Number reporting quality not good	Defects in plants noticed			
			Wilted	Diseased	Roots not properly developed	Other defects
1	2	3	4	5	6	7
1. Bihar	71	7	4	2	3	4
2. Gujarat	58	1	1	—	—	—
3. Himachal Pradesh	33	2	2	—	—	—
4. Jammu & Kashmir	40	19	—	—	19	2
5. Karnataka	75	3	3	—	1	1
6. Kerala	34	5	1	—	1	4
7. Madhya Pradesh	105	7	7	—	2	—
8. Maharashtra	61	3	—	—	3	—
9. Orissa	76	21	1	1	19	1
10. Rajasthan	71	3	1	—	3	1
11. Tamil Nadu	45	1	1	—	—	—
12. West Bengal	58	6	—	1	3	2
Total all States	727	78	21	4	54	15
			(26.9)	(5.1)	(69.2)	(19.2)

Figures in brackets indicate percentages to total in Col. 3,

### Months of planting seedlings

5.36 The planting season for seedlings was reported to be between June and August. Seven hundred seventy five (85 per cent) respondents planted seedlings during this period, whereas another fifteen per cent planted seedlings in subsequent months. In Jammu & Kashmir, seedlings were planted in the month of March when the snow started thawing. In Tamil Nadu, six and twenty respondents planted seedlings in October and November respectively as late appointment of field level extension workers affected preparatory work at the grass-root levels. The Statewise distribution of the beneficiaries according to the planting month is given at Annex 5.28.

5.37 Eighty-eight selected beneficiaries reported that they were not satisfied with the species of plants given to them. Out of them about 50 per cent had shifted from the species planted earlier to some of the species of their choice. The Statewise position is given in the table below :

Table 5.12 : Dissatisfaction with the species planted

State	No. of selected beneficiaries	No. not satisfied with the species planted	No. reported shifting to others species of their choice
1	2	3	4
1. Andhra Pradesh . . . . .	42	—	—
2. Assam . . . . .	35	2 (5.7)	1 (50.0)
3. Bihar . . . . .	71	—	—
4. Gujarat . . . . .	58	15 (25.9)	2 (13.3)
5. Haryana . . . . .	40	—	—
6. Himachal Pradesh . . . . .	33	1 (3.3)	1 (100.0)
7. Jammu & Kashmir . . . . .	40	4 (10.0)	—
8. Karnataka . . . . .	75	3 (4.0)	—
9. Kerala . . . . .	34	9 (26.5)	—
10. Madhya Pradesh . . . . .	105	16 (15.2)	16 (100.0)
11. Maharashtra . . . . .	61	3 (4.9)	—
12. Orissa . . . . .	76	5 (6.6)	4 (80.0)
13. Rajasthan . . . . .	71	12 (16.9)	3 (25.0)
14. Tamil Nadu . . . . .	45	—	—
15. Uttar Pradesh . . . . .	63	4 (6.3)	4 (100.0)
16. West Bengal . . . . .	58	14 (24.1)	14 (100.0)
All States . . . . .	907	88 (9.7)	45 (51.17)

i) Figures in brackets in Col. 3 are percentages to Col. 2.

ii) Figures in brackets in Col. 4 are percentages to Col. 3.

The ratio of the selected beneficiaries who were not satisfied with the species planted were amongst the highest in Kerala (26.5 per cent), Gujarat (25.9 per cent), West Bengal (24.1 per cent) and Rajasthan (16.9 per cent). In four States—Himachal Pradesh, Madhya Pradesh, Uttar Pradesh and West Bengal—all the selected beneficiaries who were not satisfied with the species supplied earlier had shifted to other species of their choice. In Andhra Pradesh, Bihar, Haryana and Tamil Nadu, all the selected beneficiaries were satisfied with the species planted.

### Farmers' preference for particular species

5.38 The Evaluation study revealed that about 60 species were grown by the sample beneficiaries in 16 States where the study was taken up. Data relating to the farmers' preference for particular species of trees and whether there were any problems in getting the species of their choice, were collected in course of the study. Since analysis of data for all the species grown would be cumbersome and unwieldy, five major species most commonly grown by the sample beneficiaries were selected for detailed analysis. It was also observed that fruit trees were in large demand in almost all the States as would be evident from the number of growers amongst the sample beneficiaries. Data relating to demand for and actual planting of fruit species as a whole were analysed. Number of the selected beneficiaries growing five major species are as follows :

Table 5.13 Species commonly grown

Sl. No.	Species	No. of beneficiaries growing	Percent to total
1	2	3	4
1. Eucalyptus . . . . .		570	62.8
2. Fruits . . . . .		208	22.9
3. Delbergia Sissoo (Shisham) . . . . .		106	11.7
4. Leucaena Leucocephala (Subabool) . . . . .		96	10.6
5. Casuarina equisetifolia (Saru) . . . . .		82	9.0
6. Others . . . . .		386	42.6

Eucalyptus was most commonly grown as about two-thirds of the selected beneficiaries had planted Eucalyptus. Next in order of preference were other local varieties grown by 42.6 per cent of the sample beneficiaries, followed by fruit trees planted by about 23 per cent of the sample beneficiaries. Subabool was grown by about 10.6 per cent of the sample beneficiaries for fodder purposes. Other species most commonly grown were Shisham (Debergia sissoo) and Saru (Casuarina equisetifolia) planted by about

12 per cent and 9 per cent of the sample beneficiaries respectively.

5.39 Statewise distribution of the sample beneficiaries growing each of the above varieties and number giving preference for particular species, though growing other varieties, are given in the Table at Annex 5.29. The maximum number of beneficiaries had grown Eucalyptus in eleven States viz. Andhra Pradesh (97.6 per cent), Gujarat (93.1 per cent), Himachal Pradesh (97.6 per cent), Jammu & Kashmir (100.0 per cent), Haryana (100 per cent), Karnataka (85.3 per cent), Kerala (44 per cent), Rajasthan (71.8 per cent), Tamil Nadu (93.3 per cent), Uttar Pradesh (79.4 per cent), and West Bengal (94.8 per cent). In Assam all the selected beneficiaries had grown other species like Gamhar, Silveroak, Amlaki and Khilika in addition to thirteen beneficiaries (37 per cent) growing Eucalyptus and one each growing Shisham & fruit. In Bihar 84.5 per cent of the beneficiaries grew fruits and 35 per cent Shisham, whereas only six (8 per cent) beneficiaries had planted Eucalyptus. In Madhya Pradesh 37 per cent of the sample beneficiaries planted Eucalyptus, whereas 73 per cent had also grown other species like bamboo, sagwan, jackfruit etc. In Maharashtra 45.9 per cent had grown Shisham and 51 per cent Subabool. In Orissa 41 per cent of the sample beneficiaries had grown Saroo and 88 per cent other varieties like Bamboo, Teak, Cashewnut, Akashmani and Arjun.

5.40 Reasons for preferring particular species—Out of 907 selected beneficiaries 36.9 per cent had indicated a clear preference for the species other than what they were growing. It may be seen from the table at Annex 5.29 that out of those who reported preference, 37 (11 per cent) and 131 (39 per cent) selected beneficiaries preferred Eucalyptus and fruit species respectively, whereas about 45 per cent of the selected beneficiaries wanted to grow some other local species suitable to local conditions. The most common reason advanced for showing preferences for particular species being that the particular species were commercially suitable which accounted for about 64 per cent of the beneficiaries indicating preference for a particular species. The reasons given for preferring the particular species clearly indicated that the main objectives of the Programme to provide fodder, fuel and small timber to the rural poor took a back seat as far as preference for species of trees by the sample beneficiaries is concerned. The reasons for preferring the particular species for getting fodder, fuel and small timber were advanced by 10 per cent, 17 per cent and 22 per cent of the beneficiaries respectively. Even amongst the States, the commercial suitability of the species preferred for was the most predominant reason advanced, except in Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala, Orissa, Uttar Pradesh and West Bengal where the reasons most predominantly advanced were suitability for small timber, in Andhra Pradesh and Orissa, suitability for fodder (Himachal Pradesh) and suitability of soil in Karnataka, Kerala, Orissa and West Bengal. In Haryana, none of the sample beneficiaries indicated preference for any other species. All

planted Eucalyptus and perhaps they were all satisfied with the species grown which was considered to be commercially viable. Statewise details of the reasons for preference may be seen at Annex 5.30.

5.41 Reasons for not growing the preferred species—The reason most commonly advanced by the sample beneficiaries in almost all the States for not growing the preferred species was that the particular species were not available in the nurseries. The reason was advanced by 86 per cent of the sample beneficiaries who gave their preference for any particular species. Statewise distribution of the reasons for not growing the preferred species are given at Annex 5.30. Fortysix selected beneficiaries in nine States were not satisfied with the species supplied and all of them wanted to shift to some other species. The Statewise distribution of the selected beneficiaries are as follows :

Table 5.14 : Number not Satisfied with the species planted and wanted to shift to other species.

State	Number of beneficiaries selected	Beneficiaries reporting not satisfied and wanted to shift to other species	
		Number	Percentage
1	2	3	4
1. Assam . . . . .	35	1	2.8
2. Gujarat . . . . .	53	3	5.2
3. Himachal Pradesh . . . . .	33	1	3.0
4. Madhya Pradesh . . . . .	105	14	13.3
5. Orissa . . . . .	76	5	6.6
6. Rajasthan . . . . .	71	4	5.6
7. Tamil Nadu . . . . .	45	1	2.2
8. Uttar Pradesh . . . . .	63	4	6.3
9. West Bengal . . . . .	58	13	22.4
Total . . . . .	544	46	8.4

While analysing the reasons given for wanting to shift to some other species no particular trend was discernible on the basis of which it could be inferred that the dissatisfaction was because of a particular variety being preferred over others. In West Bengal, however, all the 13 beneficiaries wanted to shift to Eucalyptus from the local varieties like Akashmani, Arjun, Gamhar etc.

#### Proportion of seedlings received and planted

5.42 Seedlings received by the selected beneficiaries as percentage to total requirement and seedlings planted as percentage to total number received from

the nurseries and other sources during each of the years 1981-82, 1982-83, 1983-84 are as follows :

**Table 5.15 : Seedlings received as percentage of total requirement and planted as percentage of total received**

Percentage	Number reported seedlings received as percentage of requirement			Number reported seedlings planted as percentage of seedlings received		
	1981-82	1982-83	1983-84	1981-82	1982-83	1983-84
1	2	3	4	5	6	7
Upto 25 . . . . .	3 (0.84)	18 (2.94)	2 (2.08)	1 (0.28)	—	—
26 to 50 . . . . .	30 (8.38)	72 (11.76)	6 (6.25)	7 (1.96)	1 (0.16)	—
51 to 75 . . . . .	17 (4.75)	35 (5.72)	3 (3.13)	2 (0.56)	—	—
76 to 100 . . . . .	308 (86.03)	487 (79.58)	85 (88.54)	348 (97.20)	611 (99.84)	96 (100.0)
Total . . . . .	358 (39.47)	612 (67.48)	96 (10.58)	358 (39.47)	612 (67.48)	96 (10.58)
Total number of beneficiaries . . . . .	907	907	907	907	907	907

(Figures in brackets are percentages to total).

As could be seen from the table above, about 14 per cent of the selected beneficiaries reported short supply of seedlings upto 75 per cent during 1981-82. The ratio of such selected beneficiaries rose to about 20 per cent in 1982-83, whereas during 1983-84 only about 12 per cent of the sample beneficiaries reported short supply of seedlings. The beneficiaries who planted seedlings in 1983-84 were, however, adopters of the Programme from earlier years. Taking all years together there were only five States, Gujarat, Jammu & Kashmir, Orissa, Rajasthan and Tamil Nadu, where quite a good number of the selected beneficiaries had reported short supply. The shortfall, however, was more pronounced during 1982-83. In that year shortfall upto 50 per cent of the requirements was reported by 77 per cent and 40 per cent

of the sample beneficiaries adopting plantations in Orissa and Jammu & Kashmir respectively. The shortfall between seedlings actually received and planted was reported by a very few selected beneficiaries, about three and less than one per cent, during 1981-82 and 1982-83 respectively. No shortfall between seedlings received and planted was reported for the year 1983-84. The number of plantations were, however, comparatively less in 1983-84. Statewise and yearwise details are given at Annexes 5.31(a) to (c).

**5.43 Reasons for shortfall in supply of seedlings :**  
Various reasons given for shortfall in the supply of seedlings are brought out in the table given below :

**Table 5.16 : Reasons for short fall in supply of seedlings.**

Year	Number raising plantation	Shortage of plants at the nursery	Could not go again and again to nursery because supply not provided once	Did not lift the plants because of bad quality	Supply promised at door step but could not be made	Plants could not be brought for want of funds	Others
1	2	3	4	5	6	7	8
1981-82 . . . . .	358	37 (10.34)	3 (0.84)	—	—	9 (2.51)	17 (4.75)
1982-83 . . . . .	612	117 (19.12)	3 (0.49)	2 (0.33)	2 (0.33)	—	26 (4.25)
1983-84 . . . . .	96	12 (12.50)	—	—	—	—	4 (4.17)

Figures in brackets are percentages to total in Col. 2.

The shortage of plants at the nurseries was primarily responsible for shortfall in supply to the farmers, as ten to nineteen per cent of the sample beneficiaries reported such reasons during each of the year 1981-

82 to 1983-84. During 1981-82, 38 per cent of the sample beneficiaries who adopted plantations in Gujarat in that year reported shortage of plants at the nurseries. During 1982-83 ratio of the respondents

giving the same reason was 70 per cent in Jammu & Kashmir, 67 per cent in Orissa, and 39 per cent in Rajasthan. The other reasons given were not of much importance.

5.44 Since the shortfall between the number of seedlings received and actually planted was not signi-

ficant, reasons given are not of much importance. The main reason being that the plants dried during transportation, reported by seven sample beneficiaries including six from Karnataka in 1981-82 and seventeen including ten and four from Rajasthan and Madhya Pradesh respectively in 1982-83. Details of the various reasons given are as follows :

Table 5.17 : Reasons for shortfall in planting.

Year	Number grown plantation	Plants dried during transportation	Eaten away by animals	Stolen by neighbours	Destroyed by children	Dried as could not plant in time	Others
1	2	3	4	5	6	7	8
1981-82	358	7 (1.96)	1 (3.28)	—	1 (0.28)	—	5 (1.40)
1982-83	612	17 (2.78)	1 (0.16)	4 (0.65)	2 (0.33)	2 (0.33)	3 (0.49)
1983-84	96	2 (2.08)	—	—	1 (1.04)	—	—

(Figures in brackets are percentages to total in Col. 2).

#### *Incidence of plant mortality and damage*

5.45 In a Programme like Social Forestry survival of plants is of cardinal importance. High incidence of plant mortality adversely affects people's response

to the Programme and therefore, their participation in it in inverse proportion. Data relating to survival of plants at the end of the planting season and thereafter at the end of each subsequent planting season are given in the following table.

Table 5.18 : Survival of plants

Plantation year	At the end of planting season	Percentage of survival at the end of the planting season (Number reported)					Total Number reported plantation (yearwise)
		0—25	26—50	51—75	76—100		
1	2	3	4	5	6	7	
1981-82	1981-82	68 (19.0)	60 (16.8)	54 (15.1)	176 (49.2)		358
	1982-83	79 (22.1)	68 (19.0)	54 (15.1)	157 (43.8)		
	1983-84	94 (26.3)	62 (17.3)	54 (15.1)	148 (41.3)		
1982-83	1982-83	162 (26.5)	96 (15.7)	98 (16.0)	256 (41.8)		612
	1983-84	194 (31.7)	104 (17.0)	113 (18.5)	201 (32.8)		
1983-84	1983-84	9 (9.4)	21 (21.9)	19 (19.8)	47 (49.0)		96

(Figures in brackets are percentages to total).

For the seedlings planted in 1981-82 number of the sample beneficiaries who reported survival between 76—100 per cent at the end of planting season 1981-82 declined from 176 to 157 and thence to 148 at the end of 1982-83 and 1983-84 planting season respectively. Similarly, for the seedlings planted in 1982-83 number of the sample beneficiaries reporting highest

percentage of survival at the end of the season declined by 22 per cent from 256 to 201 at the end of next planting season. The above data tend to show that the seedlings after being planted need to be nurtured and taken care of for the first few years. In three States, Himachal Pradesh, Tamil Nadu and West Bengal, number of the respondents planting trees in 1981-82

and reporting lowest percentage of survival at the end of the planting season gradually stepped up at the end of each subsequent planting season. This indicated that more number of plants suffered from mortality in subsequent years. For those participated in the Programme in 1982-83, number reporting highest survival percentage at the end of the year further dropped at the end of subsequent year in Himachal Pradesh (22 per cent to 5.5 per cent), Jammu & Kashmir (92.5 per cent to 40 per cent), Madhya Pradesh (32 per cent to 24 per cent), Rajasthan (56 per cent to 38 per cent), the percentages in bracket indicate ratio of the beneficiaries planting seedlings in that year. As a result, more number of the selected beneficiaries reported lower survival percentages in subsequent year. For the plantation of 1983-84 the survival percentage reported at the end of the planting season was, however, better as ratio of the sample beneficiaries reporting higher percentage of survival was comparatively better than that in the earlier years. Yearwise percentage of survival of plants are given in the tables at Annexes 5.32 (a) to (c).

5.46 *Causes of plant mortality and damage* : With a view to studying the causes of plant mortality on private lands data were collected in course of the Evaluation study. Causes of damage/destruction of plants reported by the respondents are as follows :

Table 5.19 : Reasons for plant Mortality.

Damage due to	Number reported	Percentage to total responses
1	2	3
1. Browsing by animals	348	(26.5)
2. Scarcity of water	383	(29.1)
3. Destruction by children and others	63	(4.8)
4. Pests/insects attack	336	(25.6)
5. Others reason	185	(14.0)
6. All reasons	1315	(100.0)

In some cases more than one reason was ascribed for the damage destruction of the same plant. For example, when plants started drying up for scarcity of water some of the respondents did not take protective measures like laying fencing around the plant to protect plants from cattle in search of forage, or plant protection measures, although some of the plants might have been affected by pests attack. Hence, the extent of damage to plants was attributed to more than one cause.

5.47 As for major reasons, about 30 per cent of the selected beneficiaries reported varying degree of plant mortality due to scarcity of water. It is quite interesting to observe that in a wet State like Kerala as much as 67 per cent of the selected beneficiaries reported drying of plants for lack of water at proper time. Amongst other States where fairly high ratio of the selected beneficiaries reported scarcity of water as one of the main causes of plant mortality, were Himachal Pradesh (41 per cent), Madhya Pradesh (32 per cent), Orissa (33 per cent) and Tamil Nadu (38 per cent). About 26 per cent of the selected beneficiaries gave other reasons like browsing of plants by animals for lack of protective fencing around plantation sites and pests/insects attack resulting in plant mortality. Browsing by animals was reported by a fairly large number of the selected beneficiaries from Assam (60 per cent), Bihar (40 per cent) and Jammu & Kashmir (46 per cent), where as more than 50 per cent of the selected beneficiaries from Gujarat and Rajasthan reported destruction of plants due to pests and insects attack. The reasons for plant mortality Statewise are given at Annex 5.33.

5.48 *Measures suggested to protect young plants* : As the above figures show, browsing by animals is one of the main causes of damage to plants on private lands. Since the farmers cannot be expected to take proper protective measures in all cases, the obvious remedy lies in stall feeding the cattle in the villages for which suitable grass and fodder plantation may be raised on public and panchayat lands in and around the villages. The Forest Department follows the system of closing one third of the forest area at a time to grazing, allowing grazing on the remaining area, albeit on a restricted scale. Similarly, unfettered grazing in the villages should be regulated under supervision of the local panchayats so that grazing should be restricted to a limited area at a time. Such care and precautions, however, will be required for the initial years of the plantation, say, first 2 to 3 years. After the plants have attained reasonable height grazing by animals will not pose much problems for the plants' further growth and maturity.

#### *Advice given on aftercare of plants*

5.49 To study as to what extent follow up measures were taken by the implementing agencies after supply of seedlings, data were collected regarding the advice tendered on after care of plants.

Table 5.20 : Advice on aftercare

Number of selected beneficiaries	Number received advice on after care	Number considered advice useful	Number followed advice	Number not followed advice	Major reasons for not following advice		
					Lack of finance	Scarcity of water for irrigation	Any other
1	2	3	4	5	6	7	8
907	557	542	479	78	35	24	58
	(61.4)	(97.3)	(86.0)	(14.0)	(44.9)	(30.8)	(74.3)

- (i) Figures in bracket in Col. 2 is percentage to total.  
(ii) Figures in brackets in Cols. 3, 4 & 5 are percentages to Col. 2.  
(iii) Figures in bracket in Cols. 6, 7 & 8 are percentages to Col. 5.



Five hundred and fifty-seven sample beneficiaries (61 per cent) reported to have received advice on different after care measures, out of which 542 (97 per cent) considered advice useful. In Haryana and Maharashtra all the respondents received advice on any aftercare measures and considered such advice useful. Among other States where more than 80 per cent of the respondents received after care advice are Bihar, Jammu & Kashmir, Karnataka and Rajasthan, whereas in Assam, Kerala & Orissa hardly any respondents received after care advice. In other States percentage of the respondents who received advice on after care varied between 33 per cent in case of Andhra Pradesh and Uttar Pradesh and 76 per cent in West Bengal. Four hundred seventy-nine (86 per cent) respondents followed the advice. Some of the respondents who did not follow advice gave more than one reason for not doing so. Thirty-five (45 per cent) out of 78 who did not follow advice reported lack of finance, whereas another 24 (31 per cent) reported scarcity of water for irrigation for not following after care advice. Among other reasons for not following advice, 13 (17 per cent) respondents were not convinced. Statewise details are given at Annex 5.34.

#### *Physical protective measures taken*

5.50 Details of Physical protective measures taken by the sample beneficiaries are given at Annex 5.35. Some of the beneficiaries reported more than one protective measure adopted for protection of plants. Only 574 out of 907 respondents (63 per cent) reported to have taken any physical protective measures on the plants raised. Two hundred sixty (45 per cent) selected beneficiaries adopted traditional protective measures like putting thorny-sticks and raising earth around the plants, reported by 154 sample beneficiaries, whereas only 104 (18 per cent) respondents took costly protective measures. Seventyone respondents (12 per cent) put up barbed wire fencing and brick griddles around the plants. Only 33 (6 per cent) respondents could engage chowkidar for protection of plants. Two hundred twenty-nine (25 per cent) respondents did not need physical protective measures for their plants. Of the rest 104 (12 per cent) respondents who did not adopt any physical protective measures, 89 (86 per cent) reported lack of finance whereas five (5 per cent) respondents, four in Karnataka and one in Jammu & Kashmir, were not sure as to survival of their plants due to scarcity of water. Hence, no protective measures were taken by them. Other respondents gave reasons like scarcity of labour or lack of equipments for non-adoption of protective measures.

#### *Incidence of pests attack on plants*

5.51 The figures at Annex 5.36 *inter alia* bring out Statewise incidence of pests attack and disease on plants reported by the sample beneficiaries. Three hundred forty-two sample beneficiaries (38 per cent) received advice on plant protection measure, whereas the rest 62 per cent had no knowledge about the plant protection measures prescribed, if any. In Jammu & Kashmir, Kerala and Orissa no sample beneficiaries received advice on plant protection measures. In Assam and Maharashtra also hardly any advice on

plant protection measures were given to the respondents. Seventy-seven per cent of the respondents who received advice on plant protection measures considered such advice useful, whereas another 13 per cent considered advice not useful. About 10 per cent of the respondents who were tendered advice on plant protection measures could not say anything about usefulness or otherwise of the advice. Two hundred eighty-eight (84 per cent) respondents reported affection of their plants by termites and white ants. A sizeable number of the sample beneficiaries in Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan & West Bengal reported termites attack on their plants. Rust attack on plant was reported by nine respondents in Bihar and one in Tamil Nadu. Twenty-five respondents in eight States, Bihar, Haryana, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu & West Bengal, also reported other insects and pests attack on their plants. In so far as advice on plant protection measures is concerned no significant after care measures appear to have been taken up by the implementing agencies. About two-thirds of the sample beneficiaries reported not to have any knowledge about plant protection measures prescribed.

#### *Benefits accrued/expected to accrue*

5.52 The plantations grown under Farm Forestry were at a nascent stage at the time the Evaluation study was conducted. Therefore, the trees were not expected to yield produce to the desired extent. However, the selected beneficiaries were asked to indicate the benefits they expected from the plantations. They were also asked as to whether the benefits had already started flowing to them. The position of all the beneficiaries put together is shown in the following table.

Table 5.21 : Benefits accrued/expected to Accrue.

Uses	Number selected	Number expected to derive benefits	Number actually started enjoying the benefits
1	2	3	4
Fuel . . . . .	907	558 (61.5)	97 (17.4)
Fodder . . . . .	907	146 (16.1)	21 (14.4)
Small Timber . . . . .	907	633 (69.8)	4 (0.6)
Fruits . . . . .	907	167 (18.4)	19 (11.4)

Figures in bracket in Col. 3 are percentages to total in Col. 2. Those in bracket in Col. 4 are percentages to total in Col. 3.

The Evaluation study revealed that while more than 60 per cent of the sample beneficiaries had expected the plantations to yield fuelwood, about 16 per cent and 18 per cent of them expected the plantations to give fodder and fruits respectively. Out of those who had expected to get fuelwood from the trees on harvests

only about 17 per cent had actually started getting it. Similarly for fodder and fruits ratio of the selected beneficiaries who had started receiving the benefit was about 14 per cent and 11 per cent respectively. The plantations had not yet started producing small timber. Only four beneficiaries reported that the species planted had started giving small timber. Amongst the States, the number of the selected beneficiaries reporting use of fuelwood were Gujarat (29), Himachal Pradesh (17), Karnataka (21), Assam, Maharashtra, Rajasthan and Uttar Pradesh (one each) and West Bengal (26). The benefits of fodder was reported by the selected beneficiaries from Andhra Pradesh (1), Himachal Pradesh (3), Maharashtra (1), Rajasthan (1), and West Bengal (15). Few beneficiaries from four States viz. Bihar (5), Maharashtra (1), Tamil Nadu (6) and West Bengal (7) had also reported harvesting of fruits from the trees planted. In addition, a fair number of the selected beneficiaries from Gujarat, Haryana, Karnataka, Rajasthan, Uttar Pradesh and West Bengal had also reported the use of the plantations for providing shade and as wind breakers.

#### *Major sources of fuelwood, fodder and small timber*

5.53 Major sources of fuelwood, fodder and small timber as reported by the sample beneficiaries before and after the initiation of the Social Forestry Programme are given on the next page. About 86 per cent of the sample beneficiaries procured fuelwood from

non-commercial sources. Similarly, hardly six per cent of the sample beneficiaries procured fodder from market on payment. The data also tend to show that there was no remarkable variation in the major sources of fuelwood, fodder and small timber in terms of preponderance of the number of reporting sample beneficiaries. Number of the beneficiaries who reported own source of fuelwood, about 36 per cent, increased marginally from 323 before 324 after the Programme, whereas for fodder and small timber, the number increased from 532 to 536 about 66 per cent and 138 to 143, about 16 per cent respectively over the corresponding period. The next important source of supply of fuelwood was nearby jungle where from about 34 per cent of the sample beneficiaries collected fuelwood both before and after the Programme was initiated. For fodder also the next important source of supply was nearby jungle, as about 13 per cent of the respondents procured fodder from such sources both before and after the Programme. For small timber, however, open market was obviously the most important source of supply, reported both before and after the Programme, as about 45 per cent of the respondents reportedly had their supply of small timber through market purchase. Statewise position is given in the table at Annexes 5.37 (a) to (c). The data also bring out the fact that about one-third of the sample beneficiaries depended on nearby forests as the primary source of fuelwood and small timber, even after the Programme was implemented.

**Table 5.22 : Sources of availability of fuel, fodder and small timber**

Item	Before						After					
	No. reported major sources						No. reported major sources					
	Own source	Nearby jungle	Open land in the village	Market	Any other	Total number reported	Own source	Nearby jungle	Open land in the village	Market	Any other	Total number reported
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Fuelwood	323 (35.6)	307 (33.8)	34 (3.7)	126 (13.9)	117 (12.9)	907	324 (35.7)	307 (33.8)	34 (3.7)	125 (13.8)	117 (12.9)	907
2. Fodder	532 (65.6)	108 (13.3)	68 (8.4)	46 (5.7)	57 (7.0)	811	536 (66.0)	110 (13.5)	65 (8.0)	47 (5.8)	54 (6.6)	812
3. Small Timber	138 (15.2)	250 (27.6)	11 (1.2)	411 (45.3)	97 (10.7)	907	143 (15.8)	249 (27.4)	11 (1.2)	398 (43.9)	106 (11.7)	907

Figures in brackets in Cols. 2 to 6 are percentages to Col. 7.

Figures in brackets in Cols. 8 to 12 are percentages to Col. 13.

#### *Involvement of family members in the collection of fuelwood and fodder*

5.54 With a view to studying involvement of the

family members in the collection of fuelwood and fodder from outside, data were collected in course of the Evaluation study. The relative position with regard to fuelwood and fodder collection is as follows :

**Table 5.23 : Family members normally going out to fetch fuel wood and fodder**

Purpose of	Number of beneficiaries reported	Women of the house	Children only	Male members only	Any member of the family	Any other
1	2	3	4	5	6	7
1. For collection of fuelwood	836	182 (21.8)	8 (0.9)	352 (42.1)	229 (27.4)	65 (7.7)
2. For collection of fodder	700	113 (16.1)	11 (1.6)	298 (42.6)	216 (30.8)	62 (8.8)

Figures in bracket are percentages to total in Col. 2.

Eight hundred thirty six selected beneficiaries (92 per cent) reported different family members going out to fetch fuelwood, whereas family members of 700 (77 per cent) selected beneficiaries went out to collect fodder. The data further revealed that male members in more than 42 per cent cases normally went out to fetch fuelwood and fodder. Fuelwood and fodder was collected from outside by women members in about 22 per cent and 16 per cent cases respectively. A little over one-fourth of the respondents reported that the task of collecting fuelwood and fodder from outside was not assigned to any specific family member. Any family member, depending on convenience and availability of time, could go out for the purpose. Children in the family were, however, sent for collecting fuelwood and fodder only in a few cases.

5.55 The table at Annex 5.38 brings out the state-wise position. Ratio of the respondents reporting involvement of women members in the procurement of fuelwood was highest in Haryana (93 per cent) and for fodder it was in Kerala (46 per cent). No involvement of women members in the pickings of fuelwood and fodder from outside was reported from Assam and

Himachal Pradesh, as well as from Andhra Pradesh and Orissa in the collection of fodder. Also involvement of women members in such activities was marginal in Jammu & Kashmir, Karnataka, Uttar Pradesh and West Bengal. In fodder collection also marginal involvement of women members was reported by the respondents from Bihar, Karnataka and Uttar Pradesh. In West Bengal about three-fourths of the respondents reported male members going out to fetch fuelwood and fodder. In Assam and Himachal Pradesh also more than 80 per cent of the respondents reported male members going out to fetch fuelwood. In Haryana 82 per cent of the respondents reported involvement of male members in procurement of fodder from outside, whereas involvement of male members in the collection of fuelwood was nil in this State.

#### *Distance of sources of fuelwood and fodder*

5.56 The distance of the sources of availability of fuelwood and fodder had not shortened to any appreciable extent for the selected beneficiaries as could be seen from the table below :

**Table 5.24 : Distance of sources of availability of fuelwood/fodder.**

Item	Number reported	Before			After		
		Less than 1 km.	1—3 kms.	Beyond 3 kms.	Less than 1 km.	1—3 kms.	Beyond 3 kms.
1	2	3	4	5	6	7	8
1. Fuelwood	836	384 (45.9)	341 (40.8)	111 (13.3)	376 (45.0)	353 (42.2)	107 (12.8)
2. Fodder	700	441 (63.0)	204 (29.1)	55 (7.9)	436 (62.3)	214 (30.6)	50 (7.1)

Figures in bracket are percentages to total in Col. 2.

The data revealed that while there was marginal fall in the number of respondents who collected fuelwood and fodder from within a distance of one km. and beyond 3 kms. after the Programme was initiated, vis-a-vis the earlier position, number of respondents who had to wend their way upto a distance of one to three kms. for collection of fuelwood and fodder after the Programme, was slightly higher. The Social Forestry Programme had so far failed to provide substantial relief to the selected beneficiaries in terms of reduction in the distance they had to trudge for col-

lecting fuelwood and fodder. The Statewise position is given at Annex. 5.39.

#### *Person hours spent in a week for collection of fuelwood and fodder*

5.57 Social Forestry had not so far ushered in any material change in the daily drudgery of the selected beneficiaries for meeting their requirement of fuel and fodder, both before and after the Programme was adopted. The following data relating to person hours spent in a week by the respondents led to the above findings.

**Table 5.25 : Person hours spent in a week for meeting requirement of fuelwood and fodder**

Item	Number reported	No. reporting person hours spent in a week						
		Before			Number reported	After		
		upto 7 hrs.	7—15 hrs.	above 15 hrs.		upto 7 hrs.	7—15 hrs.	above 15 hrs.
1	2	3	4	5	6	7	8	9
1. For fuelwood	836	476 (56.9)	265 (31.7)	95 (11.4)	836	468 (56.0)	271 (32.4)	97 (11.6)
2. For fodder	700	315 (45.0)	231 (53.0)	154 (22.0)	700	315 (45.0)	225 (32.3)	159 (22.7)

(Figures in brackets indicate percentages to total)

Number of the selected beneficiaries who spent upto seven hrs. in a week for meeting their fuelwood needs marginally came down from 476 before the Programme, to 468 after the Programme was adopted, whereas number of the respondents working upto seven hrs. per week for meeting the requirement of fodder remained the same both before and after the Programme. Ratio of the respondents who worked seven to fifteen hours per week for meeting their fuelwood needs increased slightly i.e. from 31.7 per cent to 32.4 per cent over the two points of time, whereas there was a slight fall of about one per cent in the ratio of the respondents working seven to fifteen hrs. per week for meeting their fodder needs, after the Programme was initiated. The statewise position is given in the table at Annex. 5.40.

5.58 In terms of average person hours worked per week by the respondents for meeting fuelwood and fodder needs, there was also no perceptible change in the situation after the adoption of Farm Forestry Programme. The average person hours spent per week for meeting fodder needs was 11.8 hrs. per reporting respondent before adoption of the Programme which, however, marginally increased to 11.9 hrs. after the Programme was adopted, whereas, 8.4 hrs. spent on average per week by each reporting respondent for meeting fuelwood needs before the Programme remained the same after adoption of the Programme. The same pattern with marginal difference in weekly average person hrs. laboured before and after the programme was perceived more or less in all the States. The Statewise picture is given in the table at Annex 5.41. In Himachal Pradesh, however, number of the respondents who worked seven to fifteen hrs. and more than fifteen hrs. per week for meeting their fuelwood and fodder needs respectively was more after the Programme was adopted. As a result, each respondent worked on an average 11.03 hrs. per week for meeting their fuelwood needs after adoption of the Programme, vis-a-vis 8.56 hrs. spent before. Similarly, for meeting their fodder needs each respondent also had to toil for 18.9 hrs. per week after the Programme, as against 15.3 hrs. before. The increasing toil the respondents had to do for meeting fodder needs for their cattle indicates gradual shrinkage of grazing facilities in and around the villages whereas the trees planted by them could not yet provide adequate fodder for their cattle. A study conducted by the Agro-Economic Research Centre of Himachal Pradesh University, Simla, in 1984, showed that during the period 1966—70 and 1977—81 compound growth rate of human and cattle population in Himachal Pradesh had been 2.05 and 0.39 respectively, resulting in reduction in mankind and cattle

land ratio. The study also revealed that the area open for grazing for the whole year had decreased, thereby shrinking further grazing facilities.

5.59 The above data tend to show that the Farm Forestry Programme had so far failed to show any appreciable impact on the selected beneficiaries in terms of increasing availability of fuelwood and fodder in rural areas so as to stave off further destruction of ecology. The Programme also could not bring about adequate relief to the respondents from the daily hard labour they had to put forth for meeting their fuelwood and fodder needs.

*Impact in terms of improvement in the availability of fuelwood, fodder and small timber*

5.60 The Evaluation study revealed that only a small fraction of the selected beneficiaries reported improvement in the availability of fuelwood, fodder and small timber. Only 52 beneficiaries in six States—Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Tamil Nadu & West Bengal—had reported improvement in the availability of fuelwood, whereas out of 19 respondents reported improvement in the availability of fodder, eight were from West Bengal and four from Himachal Pradesh. For small timber the availability position had improved for only ten respondents out of which six were from Gujarat. The selected beneficiaries who had reported no improvement in the overall position had given more than one reason for non-improvement in the situation. Six hundred sixty eight (74 per cent) reported plants being too small, whereas for 110 (12 per cent) beneficiaries plants did not survive or dried up. Plants grown by 66 beneficiaries were not suitable for fuelwood, fodder and small timber as the plants were grown mainly for commercial purposes. It was apparent that for about three-fourths of the selected beneficiaries plants had not yet fully matured to be of any use of them for the purposes for which they were primarily intended. In about twelve per cent cases the situation could not improve due to plant.

*Money paid for procuring fuelwood and fodder*

5.61 There was virtually no change in the number of the selected beneficiaries who paid money to different agencies for procuring fuelwood and fodder, both before and after the adoption of the Programme, although agencywise their number changed marginally. For small timber however, number of the selected beneficiaries who paid money to different agencies before the Programme was more than the number who paid money after the Programme. The picture is brought out in the table below :

Table 5.26 : Average amount paid to different agencies for procuring fuelwood, fodder and small timber

(Rupees)

		Before			After		
		Forest guard	Local Chowkidar	Others	Forest guard	Local Chowkidar	Others
1		2	3	4	5	6	7
Fuelwood	No. reported	23	5	13	24	5	12
Fodder	No. reported	—	—	55	2	—	53
Small Timber	No. reported	12	9	194	15	9	181

### Generation of income and employment

5.62 One of the objectives of the Evaluation study was to assess the impact of the Programme in terms of generation of income and employment, both on own work and through wage employment on public

plantations. It was also considered to be of interest to study the extent of employment provided by Farm Forestry on own farm after the Programme was initiated. Generation of employment through Farm Forestry in terms of persondays during 1983-84, as reported by the sample beneficiaries are on next page :

Table 5.27 : Person days of employment on own work and on Farm Forestry during 1983-84

State	Number reported	Average person days employed on own work including Farm Forestry	Average person days employed on Farm Forestry	%age of Col. 4 to Col. 3
1	2	3	4	5
1. Andhra Pradesh	19	368	12	3.3
2. Assam	—	—	—	—
3. Bihar	57	404	18	4.4
4. Gujarat	48	418	83	19.8
5. Haryana	35	422	29	6.9
6. Himachal Pradesh	32	530	37	7.0
7. Jammu & Kashmir	—	—	—	—
8. Karnataka	62	433	56	12.9
9. Kerala	25	81	1	1.2
10. Madhya Pradesh	75	752	71	9.4
11. Maharashtra	57	340	42	12.4
12. Orissa	25	399	1	0.2
13. Rajasthan	70	795	122	15.3
14. Tamil Nadu	38	272	28	10.3
15. Uttar Pradesh	57	527	21	4.0
16. West Bengal	34	566	103	19.1
All States	634	492	52	10.6

For each of 634 sample beneficiaries in 14 States Farm Forestry provided average employment of 52 persondays during 1983-84 which contributed to 10.6 per cent of total employment on own work. There was wide variation in the ratio of employment generated through Farm Forestry to total employment on own work among the beneficiaries from different States, ranging from more than 19 per cent in case of Gujarat and West Bengal to as low as 1.2 per cent and 0.2 per cent in Kerala and Orissa respectively. From two States Assam and Jammu & Kashmir, no generation of employment through Farm Forestry during 1983-84 was reported. The employment on Farm Forestry, however, did not necessarily bring forth commensurate income side by side. The employment provided by Farm Forestry on own farm related to activities connected with planting of trees including aftercare measures for the first few years, whereas income from the produce of trees would start flowing to the farmers only after 6 to 7 years.

5.63 For assessing the impact of the Programme before and after approach was adopted to find out as to how far the Programme had been instrumental in generating additional income and employment to the adopting farmers. Data relating to income and employment on own farm for the selected beneficiaries were collected for the ear immediately before the adoption of the Programme and for 1983-84 when the Programme was already adopted. Only 48 beneficiaries in five States had reported generation of income from Farm Forestry during 1983-84 and, therefore, a comparative study could be attempted only for such bene-

ficiaries. The data are given on the next page. The income data were based on the rates prevailing during 1983-84.

5.64 The average persondays of employment on own work including Farm Forestry had reportedly increased to 363 during 1983-84 over the earlier period, a growth of 16.3 per cent of which Farm Forestry provided about 15 (4.1 per cent), persondays of employment. Amongst the five States where income generation through Farm Forestry during 1983-84 was reported, employment generation on Farm Forestry was highest in West Bengal which contributed to 12.7 per cent of total employment. Next highest average employment on Farm Forestry was reported from Gujarat which contributed to 10.4 per cent of total employment on own work. Average income from Farm Forestry during 1983-84 as reported by 48 selected beneficiaries, was Rs. 60 which contributed to 0.6 per cent of total income on own work during 1983-84. The average income during 1983-84 including income from Farm Forestry recorded a growth of 10 per cent over the income for the earlier period. The growth was highest in Himachal Pradesh, 19.4 per cent, followed by West Bengal, 18.4 per cent and Tamil Nadu, 16.9 per cent. A comparison between the two sets of data tend to show that while net accretion to total income on account of Farm Forestry was not much pronounced, being only 0.6 per cent. Farm Forestry provided about 4 per cent of employment to the selected beneficiaries during 1983-84. This, as already explained, was due to the fact that most of the plants were young

and the produce had not yet started maturing for harvest.

Table 5.28 : Employment and income on own work including Farm Forestry

State	Number reported	For the year immediately before adoption		1983-84							
		Average employment on own work (person days)	Average income from own work (Rs.)	Average employment on own work including Farm Forestry (person days)	% of Col. 5 to Col. 3	Average income including Farm Forestry (Rs.)	% of Col. 7 to Col. 4	Average employment on Farm Forestry (person days)	% of Col. 9 to Col. 5	Average income from Farm Forestry (Rs.)	% of Col. 11 to Col. 7
		(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	person days	(Rs.)	(Rs.)	(Rs.)	(Rs.)
1	2	3	4	5	6	7	8	9	10	11	12
1. Gujarat	2	210	18400	268	127.6	18738	101.8	28	10.4	38	0.20
2. Himachal Pradesh	10	590	8831	748	126.8	10540	119.4	33	4.4	72	0.68
3. Karnataka	26	275	7524	294	105.9	7829	104.0	6	2.0	44	0.56
4. Tamil Nadu	8	110	9975	122	110.9	11653	116.9	8	6.6	13	0.11
5. West Bengal	2	308	3780	378	122.7	4474	118.4	48	12.7	414	9.25
All States	48	312	8502	363	116.3	9348	110.0	15	4.1	60	0.64

5.65 *Generation of wage employment on Social Forestry.*—To assess how far the Social Forestry Programme had provided wage employment to the selected beneficiaries, data relating to wage employment were collected for the period immediately before the adoption of the Programme and for 1983-84. The table given on the next page depicts average person-days of wage employment before implementation of the Programme and wage employment including em-

ployment and wages earned through Social Forestry during 1983-84 reported by 37 beneficiaries from eleven States. The average person-days of wage employment recorded a growth of 10.7 per cent, taking all States together, and average income from wage employment increased by 30.5 per cent over the same period. The data further tend to show that average wage employment and income through Social Forestry contributed to 45.8 per cent and 53.5 per cent of

Table 5.29 : Employment & Income on wage labour

State	Number reported	For the year immediately before adoption of the programme		1983-84							
		Average employment as wage labour (person days)	Average income from wage employment (Rs.)	Average wage employment including wage employment on Social Forestry (person days)	Percentage of Col. 5 to Col. 3	Average income from wages including wage income from Social Forestry (Rs.)	Percentage of Col. 7 to Col. 4	Average wage employment on Social Forestry (person days)	Percentage of Col. 9 to Col. 5	Average income from wage employment on Social Forestry (Rs.)	Percentage of Col. 11 to Col. 7
		(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	person days	(Rs.)	(Rs.)	(Rs.)	(Rs.)
1	2	3	4	5	6	7	8	9	10	11	12
1. Andhra Pradesh	1	360	2160	407	113.1	3235	149.8	387	95.1	3075	95.1
2. Bihar	8	161	979	274	170.2	2169	221.6	128	45.7	1069	49.3
3. Haryana	2	245	1471	170	69.4	2118	144.0	125	73.5	1518	71.7
4. Himachal Pradesh	4	118	948	162	137.3	1496	157.8	82	50.8	696	46.5
5. Jammu & Kashmir	2	365	1730	381	104.4	1902	109.9	16	4.2	172	9.1
6. Karnataka	4	227	931	272	119.8	1654	178.7	60	22.0	295	17.8
7. Kerala	1	200	4900	230	115.0	4500	115.0	180	78.3	3600	78.3
8. Madhya Pradesh	1	250	1050	105	42.0	735	73.0	15	14.3	103	14.3
9. Maharashtra	3	535	1943	500	93.4	2549	131.2	50	9.9	471	13.5
10. Rajasthan	10	257	2333	235	91.4	2145	91.9	185	78.7	1655	77.6
11. Tamil Nadu	1	180	840	280	155.6	1280	152.4	100	35.7	128	10.0
All States	37	242	1594	268	110.7	2080	130.5	123	45.8	1113	53.5

total wage employment and income reported by the selected beneficiaries during 1983-84. The ratio of wage employment through Social Forestry to total wage employment during 1983-84 was as high as 95 per cent in Andhra Pradesh, 78 per cent in Kerala and Rajasthan, 74 per cent in Haryana and 51 per cent in Himachal Pradesh. The ratio of income from wage employment on Social Forestry to total income from wage employment during 1983-84 also indicated such higher trend in the above States. It appears that with increasing availability of alternative wage employment on Social Forestry in and around the villages the selected beneficiaries did not offer themselves for wage employment elsewhere. The data collected in course of the Evaluation Study were, however, too scanty to generalise such inference.

#### *Steps suggested for marketing of produce*

5.66 The selected beneficiaries whose trees had not yet started yielding produce were asked as to whether they had given any thought towards marketing of their produce. One hundred fifty five (17 per cent) respondents out of 907 reported that they had given thought over marketing of their produce as and when the same matured. The State wise picture is given in the table at Annex 5.42. The selected beneficiaries

who had given thought towards marketing of produce suggested steps for marketing of each of the produce separately and a maximum of three steps were suggested. One hundred and forty three (44 per cent) favoured formation of cooperative marketing societies and 46 (14 per cent) favoured marketing of their produce through private contractors who should be controlled by the panchayat members so as to prevent any exploitation by them. Another 42 (13 per cent) respondents preferred sale through private dealers, only under active supervision of the local bodies. Majority of the respondents who intended to sell any produce on maturity in near future, favoured formation of cooperative organisations through which sale of produce could be effected. A sizeable number of the respondents also apprehended exploitation by private contractors/dealers and, therefore, preferred active intervention of the panchayat members as a safeguard in the matter of sale of their produce to private parties.

#### *Reasons for satisfaction/non-satisfaction*

5.67 The selected beneficiaries were asked as to whether they were satisfied with the Farm Forestry Programme on their field. The replies received from the selected beneficiaries are summarised below :

**Table 5.30 : Reasons for satisfaction/non-satisfaction with the Programme**

Number selected beneficiaries satisfied with the Programme	Reasons for satisfaction	Number of selected beneficiaries not satisfied with the Programme	Reason for non-satisfaction	
1	2	3	4	
692	(i) Small timber would be available in plenty	486 (70.2)	(i) Non-availability of irrigation facilities	97 (45.1)
	(ii) Fuelwood would be available in plenty	430 (62.1)	(ii) Costlier to raise plants	86 (40.0)
	(iii) Fodder will be available in plenty	153 (22.1)	(iii) Species prone to insects/pests	37 (17.2)
	(iv) Fruits would be available in plenty.	121 (17.5)	(iv) No satisfactory advice given . . . .	75 (34.9)
	(v) Soil erosion will be checked . . . .	41 (5.9)	(v) Others . . . . .	115 (53.5)
	(vi) Strong winds will be checked . . . .	58 (8.4)		
	(vii) Others . . . . .	231 (33.4)		

Figures in bracket are percentages to totals in Cols. 1 and 3.

Six hundred ninety two (76 per cent) respondents reported that they were satisfied with the Programme. As regards reasons for being satisfied with the Programme, 486 (70 per cent) reported that small timber would be available in plenty, whereas for 430 (62 per cent) and 153 (22 per cent) respondents, easy availability of fuelwood and fodder respectively was the main consideration for being satisfied with the

Programme. Among other reasons, checking of strong wind and soil erosion through plantation of trees were given by 58 (eight per cent) and 41 (six per cent) respondents respectively. Two hundred thirty one (33 per cent) reported other reasons for being satisfied with the Programme. Two hundred fifteen (24 per cent) respondents gave one reason or more for not being satisfied with the Programme. Lack of



irrigation facilities and cost constraints were cited as the principal reason for not being happy with the Programme by 97 (45 per cent) and 86 (40 per cent) respondents respectively. Another 75 (35 per cent) were not satisfied with the advice given on plantations, whereas 115 (54 per cent) gave various other reasons for their dissatisfaction with the Programme. Statewise details are given in the table at Annex 5.43.

5.68 The Evaluation Study revealed that the Programme was quite popular with most of the selected beneficiaries as it provided the hope of adequate supply of fuelwood, fodder and small timber in near future. Other considerations like checking soil erosion and providing a barrier against strong wind did not weigh much with the beneficiaries in adopting the Programme. Most of the selected beneficiaries who were not satisfied with the Programme reported lack of finance as well as in adequate irrigation facilities. About 35 per cent of the selected beneficiaries not satisfied with the Programme also complained about the advice given on planting of trees.

#### *Suggestions for effecting improvement*

5.69 Eight hundred eleven (89 per cent) selected beneficiaries suggested different measures for bringing about improvement in the Social Forestry Programme. More than one suggestion was given by most of the respondents. Three hundred thirty four (41 per cent) suggested that subsidy should be given for fencing around the plants at initial stage so as to protect plants from being browsed by cattle, whereas another 300 (37 per cent) needed regular guidance on follow-up measures. One hundred sixty-seven (21 per cent) respondents indicated their preference for quick growing species and 104 (13 per cent) wanted that species suitable to the area be supplied. The Statewise details are given at Annex 5.44. In Madhya Pradesh more than 80 per cent of the sample beneficiaries needed monetary help for fencing around the plantation sites. Among other States where a higher ratio of the sample beneficiaries also needed monetary help, were Bihar (68 per cent), Karnataka, Jammu & Kashmir (60 per cent each) and Maharashtra (54 per cent). In Rajasthan 48 (68 per cent) respondents indicated the need for constant guidance on follow up measures. In Andhra Pradesh, Kerala, Maharashtra and Uttar Pradesh more than 50 per cent of the sample beneficiaries also suggested such measures for effecting improvement in the programme. Arrangements needed for marketing of produce were not suggested by very many selected beneficiaries. Presumably the Programme was adopted by the selected beneficiaries in general with a view to improving the availability of fuelwood, fodder and small timber for own consumption. Only those who had adopted the Programme on a commercial proposition indicated the need for evolving suitable marketing arrangements for their produce.

5.70 Out of 91 (10 per cent) selected beneficiaries who reportedly were not willingly to take up

plantation programme on a continuous basis, 76 (84 per cent) had given reasons like lack of finance for growing trees as well as for raising fencing around plantation sites. In Maharashtra as many as 16 out of 17 beneficiaries not willing to continue with the Programme gave such reasons. Only 13 (14 per cent) respondents were not willing to continue with the Programme, for it affected growth of other crops in the surrounding area. High incidence of pests/insects attack on plants which affected other crops grown near by was also given by 11 (12 per cent) respondents. Statewise picture is given in the table at Annex 5.45.

5.71 The data collected at the beneficiary households' level made it amply clear that whereas the principal objective of Farm Forestry components of Social Forestry Programme was to grow large number of trees on all conceivably available open space outside forest areas to provide easy availability of fuelwood, fodder and small timber, besides brining about ecological improvement, the main motivation for the adopters of Farm Forestry was to generate more household income by planting commercially suitable Eucalyptus as some sorts of cash crop. As much as sixty-three per cent of 907 selected beneficiaries had grown Eucalyptus and although Eucalyptus may provide some biomass in the form of small branches and twigs which could be used as fuel, the primary consideration for growing Eucalyptus tree was its steady demand as industrial raw material. Even as many as 64 per cent of 335 selected beneficiaries, preferring species other than what they had grown, indicated their preference for other commercially suitable species which they could grow as cash crop to augment household income. The prospects of easy availability of fuelwood through the Farm Forestry Programme, did not weigh much with the adopters of the Programme. Various studies undertaken had clearly brought out that purchased part of energy in the form of tree biomass in rural areas is very negligible and almost the whole is procured from non-commercial sources. Therefore, the primary goal of Social Forestry as envisioned by the planners to promote fuelwood plantations in and around individual farms, in the backyards of homestead etc. for raising fuelwood resources within easy reach of the villagers, mainly to provide relief to women and children in particular, who were required to walk long distance in search of fuelwood from the forests and thereby saving the forests from being destroyed, did not fit well into the individual choice of the adopters.

5.72 The Programme had not so far brought about any reduction in the daily drudgery of the members of the selected households who go in search of fuelwood and fodder. Since the benefits under the Programme had not yet started accruing to an appreciable extent there was practically no improvement in the availability of fuelwood and fodder in rural areas. Only ten per cent and two per cent of the selected beneficiaries actually started getting



fuelwood and fodder respectively out of the trees planted. As for impact of the Programme in terms of generation of additional income on own work, only 48 out of 907 (5.3 per cent) selected beneficiaries who had adopted Farm Forestry reported on an average additional income generation of about ten per cent on Farm Forestry during 1983-84, vis-a-vis their income on own farm immediately before adoption of the programme.

#### *Assessment of Ecological Impact*

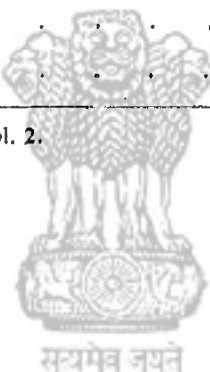
5.73 One of the objectives of the Evaluation Study was to assess the ecological impact of the Programme on the local population. Since the trees planted were two to three years old and had not grown sufficiently, the full impact of the Programme in terms of environmental protection could not be studied in course of the Evaluation Study.



## Beneficiaries selected and actually canvassed

State	Number selected	Number Canvassed
1	2	3
1. Andhra Pradesh	44	42 (95.5%)
2. Assam	37	35 (94.6%)
3. Bihar	71	71 (100.0%)
4. Gujarat	77	58 (75.3%)
5. Haryana	40	40 (100.0%)
6. Himachal Pradesh	33	33 (100.0%)
7. Jammu & Kashmir	40	40 (100.0%)
8. Karnataka	76	75 (98.7%)
9. Kerala	57	34 (59.6%)
10. Madhya Pradesh	120	105 (87.5%)
11. Maharashtra	63	61 (96.8%)
12. Orissa	78	76 (97.4%)
13. Rajasthan	79	71 (89.9%)
14. Tamil Nadu	53	45 (84.9%)
15. Uttar Pradesh	63	63 (100.0%)
16. West Bengal	58	58 (100.0%)
All States	989	907 (91.7%)

Figures in brackets are percentages to total in Col. 2.



Distribution of beneficiaries according to age, sex, Literacy and social groups

State	No. of beneficiaries selected	Sex		Age groups			Illiterate	Literate (below Primary)	Primary and upto matric	Others
		Male	Female	Up to 25 yrs.	25-50 years	above 50 yrs.				
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh .	42	42 (100.00)	0 (0.00)	11 (26.19)	18 (42.86)	13 (30.95)	12 (28.57)	5 (11.90)	18 (42.86)	7 (16.67)
2. Assam . . .	35	35 (100.00)	0 (0.00)	1 (2.86)	24 (68.57)	10 (28.57)	4 (11.43)	2 (5.71)	19 (54.29)	10 (28.57)
3. Bihar . . .	71	70 (98.51)	1 (1.41)	29 (40.85)	40 (56.33)	2 (2.82)	35 (49.30)	11 (15.49)	20 (28.17)	5 (7.04)
4. Gujarat . . .	58	58 (100.00)	0 (0.00)	6 (10.34)	29 (50.00)	23 (39.66)	10 (17.24)	17 (29.31)	30 (51.72)	1 (1.72)
5. Haryana . . .	40	34 (85.00)	6 (15.00)	8 (20.00)	27 (67.50)	5 (12.50)	18 (45.00)	4 (10.00)	17 (42.50)	1 (2.50)
6. Himachal Pradesh	33	33 (100.00)	0 (0.00)	6 (18.18)	16 (48.48)	11 (33.33)	7 (21.21)	3 (9.09)	22 (66.67)	1 (3.03)
7. J. & K. . . .	40	39 (97.50)	1 (2.50)	1 (2.50)	29 (72.50)	10 (25.00)	10 (25.00)	2 (5.00)	19 (47.50)	9 (22.50)
8. Karnataka . . .	75	75 (100.00)	0 (0.00)	13 (17.33)	50 (66.67)	12 (16.00)	26 (34.67)	15 (20.00)	30 (40.00)	4 (5.33)
9. Kerala . . . .	34	30 (88.24)	4 (11.76)	6 (17.65)	25 (73.53)	3 (8.82)	3 (8.82)	4 (11.76)	22 (64.71)	5 (14.71)
10. Madhya Pradesh .	105	91 (86.67)	14 (13.33)	35 (33.33)	64 (60.95)	6 (5.71)	52 (49.52)	16 (15.24)	30 (28.57)	7 (6.67)
11. Maharashtra . .	61	53 (86.89)	8 (13.11)	7 (11.48)	41 (67.21)	13 (21.31)	42 (68.85)	11 (18.03)	4 (6.56)	4 (6.56)
12. Orissa . . . .	76	73 (96.05)	3 (3.95)	32 (42.11)	40 (52.63)	4 (5.26)	15 (19.74)	13 (17.11)	33 (43.42)	15 (19.74)
13. Rajasthan . . .	71	70 (98.59)	1 (1.41)	16 (22.54)	45 (63.38)	10 (14.08)	34 (47.89)	11 (15.49)	16 (22.54)	10 (14.08)
14. Tamil Nadu . . .	45	41 (91.11)	4 (8.89)	4 (8.89)	29 (64.45)	12 (26.67)	15 (33.33)	14 (31.11)	13 (28.89)	3 (6.67)
15. Uttar Pradesh . .	63	63 (100.00)	—	5 (7.94)	49 (77.78)	9 (14.29)	18 (28.57)	23 (36.63)	24 (38.10)	8 (12.70)
16. West Bengal . . .	58	58 (100.00)	—	7 (12.07)	40 (68.96)	11 (18.97)	4 (6.90)	2 (3.45)	35 (60.34)	17 (29.31)
All States . . . .	907	865 (95.37)	42 (4.63)	187 (20.62)	566 (62.40)	154 (16.98)	305 (33.63)	143 (15.77)	352 (38.81)	107 (11.80)

Figures in brackets are percentages to total in Col. 2.

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States	SC	ST	Backward	Others
	12	13	14	15
1. A.P. . . . .	9 (21.43)	0 (0.00)	14 (33.33)	19 (45.24)
2. Assam . . . . .	2 (5.71)	9 (25.71)	11 (31.43)	13 (37.14)
3. Bihar . . . . .	14 (19.72)	32 (45.07)	13 (18.31)	12 (16.90)
4. Gujarat . . . . .	13 (5.17)	5 (8.62)	3 (5.17)	47 (81.03)
5. Haryana . . . . .	0 (0.00)	0 (0.00)	0 (0.00)	40 (100.00)
6. H.P. . . . .	3 (9.09)	0 (0.00)	3 (9.09)	27 (81.82)
7. J. & K. . . . .	0 (0.00)	0 (0.00)	0 (0.00)	40 (100.00)
8. Karnataka . . . . .	4 (5.33)	1 (1.33)	55 (73.33)	15 (20.00)
9. Kerala . . . . .	4 (11.76)	3 (8.82)	7 (20.59)	20 (58.82)
10. M.P. . . . .	7 (6.67)	39 (37.14)	20 (19.05)	39 (37.14)
11. Maharashtra . . . . .	27 (44.26)	13 (21.31)	3 (4.92)	18 (29.51)
12. Orissa . . . . .	13 (17.11)	11 (14.47)	11 (14.47)	41 (53.95)
13. Rajasthan . . . . .	13 (18.31)	13 (18.31)	3 (4.23)	42 (59.15)
14. Tamil Nadu . . . . .	7 (15.56)	0 (0.00)	24 (53.33)	14 (31.11)
15. U.P. . . . .	9 (14.29)	0 (10.00)	18 (28.57)	36 (57.14)
16. West Bengal . . . . .	2 (3.45)	1 (1.72)	1 (1.72)	54 (93.10)
All States . . . . .	117 (12.90)	127 (14.00)	186 (20.51)	477 (52.59)

## Distribution of Beneficiaries According to Principal Occupations

State	No. of selected benefi- ciaries	Mainly owner/ Tenant cultivators	Agricultural labour	Non- agricultural labour	Trade & shop- keeping	Service	Others
1	2	3	4	5	6	7	8
Andhra Pradesh	42	24(57.14)	8(19.05)	—	3(7.14)	6(14.29)	1(2.38)
Assam	35	12(34.29)	1(2.86)	—	4(11.43)	14(40.00)	4(11.42)
Bihar	71	46(64.79)	11(15.49)	10(14.08)	—	1(1.41)	3(4.23)
Gujarat	58	57(98.28)	—	—	—	—	1(1.72)
Haryana	40	36(90.00)	—	—	—	2(5.00)	2(5.00)
Himachal Pradesh	33	25(75.76)	—	4(12.12)	3(9.09)	1(3.03)	—
Jammu & Kashmir	40	21(52.50)	—	1(2.50)	3(7.50)	12(30.00)	3(7.50)
Karnataka	75	63(84.00)	5(6.67)	—	1(1.33)	1(1.33)	5(6.67)
Kerala	34	6(17.65)	11(32.35)	2(5.88)	1(2.94)	8(23.52)	6(17.65)
Madhya Pradesh	105	86(81.90)	3(2.86)	10(9.52)	1(0.95)	1(0.95)	4(3.81)
Maharashtra	61	26(42.62)	21(34.43)	3(4.92)	—	2(3.28)	9(14.75)
Orissa	76	41(53.95)	15(19.74)	3(3.95)	2(2.63)	9(11.84)	6(7.90)
Rajasthan	71	51(71.83)	2(2.82)	5(7.04)	3(4.23)	6(8.46)	4(5.64)
Tamil Nadu	45	22(48.89)	6(13.33)	1(2.22)	2(4.44)	7(15.56)	7(15.56)
Uttar Pradesh	63	50(79.37)	3(4.76)	1(1.59)	5(7.93)	1(1.59)	3(4.76)
West Bengal	58	46(79.81)	—	—	—	11(18.97)	1(1.72)
All States	907	612(67.47)	86(9.48)	40(4.41)	28(3.08)	82(9.04)	59(6.51)

Figures in brackets are percentages to total in Col. 2.



## Distribution of beneficiaries according to year of adoption

State	No. of selected beneficiaries	Adoption only in			Adoption in combination of						
		1980-81	1981-82	1982-83	1980-81		1981-82		1982-83		1982-83
					1981-82	1982-83	1981-82 1982-83 & 1983-84	1982-83	1983-84	1982-83 1983-84	
1	2	3	4	5	6	7	8	9	10	11	12
1. Andhra Pradesh	42	—	—	38 (90.48)	—	—	—	—	—	—	4 (9.52)
2. Assam	35	—	33 (94.28)	—	—	—	—	1 (2.86)	1 (2.86)	—	—
3. Bihar	71	—	—	70 (98.59)	—	—	—	—	—	—	1 (1.41)
4. Gujarat	58	—	35 (60.34)	—	3 (5.18)	—	—	8 (13.79)	11 (18.97)	1 (1.72)	—
5. Haryana	40	—	40 (100.00)	—	—	—	—	—	—	—	—
6. Himachal Pradesh	33	—	12 (36.36)	—	—	—	—	8 (24.24)	3 (9.09)	10 (30.30)	—
7. Jammu & Kashmir	40	—	—	36 (90.00)	—	—	—	—	—	—	4 (10.00)
8. Karnataka	75	—	29 (21.75)	35 (46.67)	—	—	—	—	7 (9.33)	3 (4.00)	1 (1.33)
9. Kerala	34	—	—	33 (97.06)	—	—	—	—	—	—	1 (2.94)
10. Madhya Pradesh	105	—	—	89 (84.76)	—	—	—	—	—	—	16 (16.80)
11. Maharashtra	61	—	—	60 (98.36)	—	—	—	—	—	—	1 (2.56)
12. Orissa	76	—	37 (48.68)	38 (50.00)	—	—	—	—	—	—	1 (1.32)
13. Rajasthan	71	—	—	64 (90.14)	—	—	—	—	—	1 (1.41)	6 (8.45)
14. Tamil Nadu	45	—	42 (93.33)	—	—	—	—	—	1 (1.22)	2 (4.44)	—
15. Uttar Pradesh	63	—	—	46 (73.02)	—	1 (1.59)	2 (3.18)	5 (7.94)	—	5 (7.94)	4 (6.35)
16. West Bengal	58	—	40 (69.00)	—	—	—	—	8 (13.81)	1 (1.72)	9 (15.52)	—
All States	907	—	268 (29.55)	509 (56.12)	3 (0.33)	1 (0.11)	2 (0.22)	30 (3.31)	24 (2.65)	31 (3.42)	39 (4.30)

Figures in brackets are percentages to total in Col. 2.

Distribution of sample Beneficiaries According to the percentage of family members who Worked on Farm Forestry

Sl. No.	State	No. of selected beneficiaries	No. of families reported male adults working on farm forestry	No. reporting percentage of adult male worked on farm forestry			No. of families reporting female adult worked on farm forestry	No. reported percentage of adult female worked on farm forestry		
				Less than 50 %	50 % to Less than 100 %	100 %		Less than 50 %	50 % to Less than 100 %	100 %
1	2	3	4	5	6	7	8	9	10	11
1.	Andhra Pradesh	42	40(95.24)	14(35.00)	10(25.00)	16(40.00)	1(2.38)	—	—	1(100.00)
2.	Assam	35	—	—	—	—	—	—	—	—
3.	Bihar	71	65(91.55)	22(33.85)	18(27.69)	25(38.46)	7(9.86)	—	4(57.14)	3(42.86)
4.	Gujarat	58	58(100.00)	16(27.69)	13(22.41)	29(50.00)	19(32.76)	4(21.05)	6(31.58)	9(47.37)
5.	Haryana	40	37(92.50)	3(6.11)	7(18.92)	27(67.50)	27(67.50)	2(7.41)	4(14.81)	21(77.78)
6.	Himachal Pradesh	33	33(100.00)	6(18.18)	11(33.33)	16(48.48)	6(18.18)	—	1(16.87)	5(83.34)
7.	Jammu & Kashmir	40	—	—	—	—	—	—	—	—
8.	Karnataka	75	68(90.67)	5(7.35)	27(39.71)	36(52.94)	29(38.67)	2(6.90)	12(41.38)	15(51.72)
9.	Kerala	34	29(85.29)	7(24.14)	8(27.59)	14(48.28)	6(17.65)	—	1(16.67)	5(83.34)
10.	Madhya Pradesh	105	83(79.05)	29(34.94)	30(36.14)	24(28.92)	26(24.76)	4(15.38)	17(65.38)	5(19.23)
11.	Maharashtra	61	23(37.70)	9(39.13)	8(34.78)	6(26.09)	39(63.93)	8(20.51)	10(25.64)	21(53.85)
12.	Orissa	76	39(51.32)	11(28.21)	16(41.03)	12(30.77)	—	—	—	—
13.	Rajasthan	71	69(97.18)	22(31.88)	21(30.43)	26(37.63)	39(54.93)	11(28.21)	16(41.03)	12(30.77)
14.	Tamil Nadu	45	34(75.56)	5(14.71)	6(17.65)	23(67.65)	22(48.89)	1(4.55)	12(54.55)	9(40.91)
15.	Uttar Pradesh	63	58(92.06)	9(15.52)	23(39.66)	26(44.83)	5(7.94)	—	—	5(100.00)
16.	West Bengal	58	35(60.34)	6(17.14)	8(22.86)	21(60.00)	—	—	—	—
	All States	907	671(73.98)	164(24.44)	206(30.70)	301(44.86)	226(24.92)	32(14.16)	83(36.73)	111(49.12)

Notes : i) Figures in parenthesis in col. 5 to 7 are percentages to figs. in col. 4

ii) Figures in parenthesis in col. 9 to 11 are percentages to figs. in col. 8

iii) Figures in parenthesis in col. 4 are percentages to total in col. 3



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## Plantations raised on Farm Land, Boundaries/Backyards etc. during 1980-- 84

Sl. State No.		No. of Selected beneficiaries	No. reported plantation on		
			Farm land only	Boundaries/ Backyards etc.	Both sites
1	2	3	4	5	6
1. Andhra Pradesh	.	42	6(14.3)	36 (85.7)	—
2. Assam	.	35	2 (5.7)	33 (94.3)	—
3. Bihar	.	71	10(14.1)	60 (84.5)	1 (1.4)
4. Gujarat	.	58	26 (44.8)	26 (44.8)	6 (10.4)
5. Haryana	.	40	11( 27.5)	29 (72.5)	—
6. Himachal Pradesh	.	3	1 (3.0)	27 (81.8)	5 (15.2)
7. Jammu & Kashmir	.	40	8 (20.0)	26 (65.0)	6 (15.0)
8. Karnataka	.	75	37 (49.3)	37 (49.3)	1 (1.3)
9. Kerala	.	34	4 (11.8)	29 (85.3)	1 (2.9)
10. Madhya Pradesh	.	105	16 (15.2)	89 (84.8)	—
11. Maharashtra	.	61	—	61 (100.0)	—
12. Orissa	.	76	22 (29.0)	54 (71.1)	—
13. Rajasthan	.	71	14 (19.7)	57 (80.3)	—
14. Tamil Nadu	.	45	19 (42.2)	26 (57.8)	—
15. Uttar Pradesh	.	63	11 (17.5)	47 (74.6)	5 (7.9)
16. West Bengal	.	58	35 (60.3)	20 (34.5)	3 (5.2)
All -States.	.	907	222 (24.5)	657 (72.4)	28 (3.1)

Figures in brackets are percentages to total in col. 3.





## Distribution of selected beneficiaries by size of holdings

Sl.No.	State	No. of selected beneficiaries	No. of beneficiaries having culti- vated holdings	No. having holdings	
				less than 2 hectares	2 hectares and above
1		2	3	4	5
1. Andhra Pradesh		42	40 (95.2)	20 (50.0)	20 (50.0)
2. Assam		35	27 (77.1)	14 (51.9)	13 (48.1)
3. Bihar		71	71 (100.0)	52 (73.2)	19 (26.8)
4. Gujarat		58	58 (100.0)	13 (22.4)	45 (77.6)
5. Haryana		40	40 (100.0)	27 (67.5)	13 (32.5)
6. Himachal Pradesh		33	33 (100.0)	10 (30.3)	23 (69.7)
7. Jammu & Kashmir		40	40 (100.0)	28 (70.0)	12 (30.0)
8. Karnataka		75	72 (96.0)	21 (29.2)	51 (70.8)
9. Kerala		34	34 (100.0)	30 (88.2)	4 (11.8)
10. Madhya Pradesh		105	99 (94.3)	26 (26.3)	73 (73.7)
11. Maharashtra		61	35 (59.0)	14 (38.9)	22 (61.1)
12. Orissa		76	66 (86.8)	43 (65.2)	23 (34.8)
13. Rajasthan		71	71 (100.0)	37 (52.1)	34 (47.9)
14. Tamil Nadu		45	28 (62.2)	15 (53.6)	13 (46.4)
15. Uttar Pradesh		63	63 (100.0)	25 (39.7)	38 (60.3)
16. West Bengal		58	58 (100.0)	25 (43.1)	33 (56.9)
All States		907	836 (92.2)	400 (47.8)	436 (52.2)

Figures in brackets in col. 3 are percentages to total in col. 2 and those in Cols. 4 & 5 are percentages to total in Col. 3.



## Adoption of Farm Forestry On Farm Land, area under Farm Forestry and average area per adopter.

Sl. No.	States	No. of selected beneficiaries	1980-81			1981-82			1982-83			1983-84		
			No. reported	Total area under plantation F.F.	Average area under farm forestry (Hect.)	No. reported	Total area under plantation F.F.	Average area under farm forestry (Hect.)	No. reported	Total area under plantation F.F.	Average area under farm forestry (Hect.)	No. reported	Total area under plantation F.F.	Average area under farm forestry (Hect.)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Andhra Pradesh	42	—	—	—	—	—	—	6	02.35	00.39	—	—	—
									(14.29)					
2.	Assam	35	—	—	—	2	00.23	00.12	—	—	—	—	—	—
						(5.71)								
3.	Bihar	71	—	—	—	—	—	—	11	00.20	00.02	—	—	—
									(15.49)					
4.	Gujarat	58	3	7.80	2.60	30	21.02	00.70	4	04.80	01.20	7	08.43	01.20
						(51.72)			(6.90)			(12.07)		
5.	Haryana	40	—	—	—	11	02.85	00.26	—	—	—	—	—	—
						(27.50)								
6.	Himachal Pradesh	33	—	—	—	6	01.94	00.32	2	00.90	00.45	—	—	—
						(18.18)			(6.06)					
7.	Jammu & Kashmir	40	—	—	—	—	—	—	14	05.35	00.38	—	—	—
									(35.00)					
8.	Karnataka	75	—	—	—	35	21.13	00.60	5	00.99	00.20	6	01.50	00.3
						(46.67)			(6.67)			(6.67)		
9.	Kerala	34	—	—	—	—	—	—	4	01.51	00.38	1	00.10	00.10
									(11.76)			(2.94)		
10.	Madhya Pradesh	150	—	—	—	—	—	—	16	06.40	00.40	6	01.65	00.28
									(15.24)			(5.71)		
11.	Maharashtra	61	—	—	—	—	—	—	—	—	—	—	—	—
12.	Orissa	76	—	—	—	—	—	—	22	00.45	00.02	—	—	—
									(28.95)					
13.	Rajasthan	71	—	—	—	—	—	—	14	04.52	00.32	2	00.36	00.18
									(19.72)			(2.82)		
14.	Tamil Nadu	45	—	—	—	19	10.40	00.55	1	00.10	00.10	1	00.05	00.05
						(42.22)			(2.22)			(2.22)		
15.	Uttar Pradesh	63	1	00.10	00.10	3	01.40	00.47	14	03.23	03.23	3	00.24	00.08
		(1.59)				(4.76)			(22.22)			(4.76)		
16.	West Bengal	58	—	—	—	38	18.10	00.48	13	07.68	00.59	7	03.18	00.45
						(65.52)			(22.41)			(12.07)		
All-States		907	4	07.90	01.98	144	77.07	00.54	126	38.48	00.30	32	15.61	00.49
			(0.44)			(15.88)			(13.89)			(3.53)		

Figures in brackets in cols. 4, 7, 10, &amp; 13 are percentages to total in col. 3.

## Number of beneficiaries reported Shift from crops to farm forestry

Sl. No.	State	1980-81						1981-82						Total area diverted from crops	No. reported shift from any crop
		No. reported shift from				No. reported shift from any crop	Total area diverted from crops	No. reported shift from				No. reported shift from any crop	Total area diverted from crops		
		Cereals	Pulses	Oil seeds	Others			Cereals	Pulses	Oil seeds	Others				
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1.	Andhra Pradesh	—	—	—	—	—	—	—	—	—	—	—	—		
2.	Assam	—	—	—	—	—	—	—	—	—	—	—	—		
3.	Bihar	—	—	—	—	—	—	—	—	—	—	—	—		
4.	Gujarat	2 (100.0)	—	1 (50.0)	2 (100.0)	2	3.80	19 (70.4)	2 (7.4)	18 (66.7)	7 (25.9)	27	19.72		
5.	Haryana	—	—	—	—	—	—	8 (100.0)	—	—	5 (62.5)	8	2.00		
6.	Himachal Pradesh	—	—	—	—	—	—	1 (100.0)	—	—	—	1	00.28		
7.	Jammu & Kashmir	—	—	—	—	—	—	—	—	—	—	—	—		
8.	Karnataka	—	—	—	—	—	—	21 (84.0)	24 (96.0)	—	1 (4.0)	25	15.01		
9.	Kerala	—	—	—	—	—	—	—	—	—	—	—	—		
10.	Madhya Pradesh	—	—	—	—	—	—	—	—	—	—	—	—		
11.	Maharashtra	—	—	—	—	—	—	—	—	—	—	—	—		
12.	Orissa	—	—	—	—	—	—	—	—	—	—	—	—		
13.	Rajasthan	—	—	—	—	—	—	—	—	—	—	—	—		
14.	Tamil Nadu	—	—	—	—	—	—	11 (68.8)	6 (37.5)	6 (37.5)	1 (6.2)	16	8.50		
15.	Uttar Pradesh	—	—	—	—	—	—	—	—	—	2 (100.0)	2	1.10		
16.	West Bengal	—	—	—	—	—	—	1 (50.0)	—	1 (50.0)	—	2	0.62		
All States		2 (100.0)	—	1 (50.0)	2 (100.0)	2	3.80	71 (87.6)	32 (39.5)	25 (30.9)	16 (19.8)	81	47.23		

Sl. No.	State	1982-83						1983-84					
		No. reported shift from				No. reported shift from any crops	Total area diverted from crops	No. reported shift form				No. reported shift from any crop	Total area diverted from crops
		Cereals	Pulses	Oil seed	Others			Cereals	Pulses	Oil seeds	Others		
1	2	15	16	17	18	19	20	21	22	23	24	25	26
1.	Andhra Pradesh	4.5 (100.0)	—	—	—	4	2.00	—	—	—	—	—	—
2.	Assam	—	—	—	—	—	—	—	—	—	—	—	—
3.	Bihar	1 (20.0)	3 (60.0)	—	1 (20.0)	5	—	—	—	—	—	—	—
4.	Gujarat	4 (100.0)	—	2 (50.0)	1 (25.0)	4	4.80 (85.7)	6 (28.6)	2 (42.9)	3 (14.3)	1	7	8.43
5.	Haryana	—	—	—	—	—	—	—	—	—	—	—	—
6.	Himachal Pradesh	—	—	—	—	—	—	—	—	—	—	—	—
7.	Jammu & Kashmir	—	—	—	4 (100.0)	4	0.45	—	—	—	—	—	—
8.	Karnataka	3 (75.0)	1 (25.0)	—	2 (50.0)	4	0.80 (100.0)	5 (100.0)	5	—	—	5	1.60
9.	Kerala	—	—	—	—	—	—	—	—	—	—	—	—
10.	Madhya Pradesh	4 (80.0)	—	—	1 (20.0)	5	1.20 (100.0)	1	—	—	—	1	0.10
11.	Maharashtra	—	—	—	—	—	—	—	—	—	—	—	—
12.	Orissa	10 (47.6)	1 (4.8)	10 (47.6)	10 (47.6)	21	0.35	—	—	—	—	—	—
13.	Rajasthan	9 (90.0)	3 (30.0)	1 (10.0)	—	10	3.53 (100.0)	1	—	—	—	1	0.25
15.	Uttar Pradesh	2 (20.0)	1 (10.0)	2 (20.0)	7 (70.0)	10	1.81 (100.0)	2	—	1 (50.0)	1 (50.0)	2	0.12
14.	Tamil Nadu	1 (100.0)	1 (100.0)	—	—	1	0.10 (100.0)	1	—	—	—	1	0.25
16.	West Bengal	—	—	—	—	—	—	1	—	—	—	1	0.68
All States		38 (55.9)	10 (14.7)	15 (22.1)	26 (38.2)	68	15.11	17 (94.4)	7 (38.9)	4 (22.2)	2 (11.1)	18	11.23

Figures in brackets are percentage to totals in cols. 7, 13, 19 & 25

## Statewise dropped area diverted to farm forestry every year.

(Area figures in Hect.)

States	1980-81		1981-82		1982-83		1983-84		All years	
	Area brought under farm forestry	Area under crop land diverted to farm forestry	Area brought under farm forestry	Area under crop land diverted to farm forestry	Area brought under farm forestry	Area under crop land diverted to farm forestry	Area brought under farm forestry	Area under crop land diverted to farm forestry	Area brought under farm forestry	Area under crop land diverted to farm forestry
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh .	—	—	—	—	2.4	2.0	—	—	2.4	2.0 (83.3)
2. Assam . . .	—	—	0.2	—	—	—	—	—	0.2	—
3. Bihar . . .	—	—	—	—	0.2	0.1	—	—	0.2	0.1 (50.0)
4. Gujarat . . .	7.8	3.8	21.0	19.7	4.8	4.8	8.4	8.4	42.0	36.0 (87.4)
5. Haryana . . .	—	—	2.9	2.0	—	—	—	—	2.9	2.0 (69.0)
6. Himachal Pradesh . . .	—	—	1.9	0.3	0.9	—	—	—	2.8	0.3 (10.7)
7. Jammu & Kashmir	—	—	—	—	5.4	0.4	—	—	5.4	0.4 (7.4)
8. Karnataka . . .	—	—	21.1	15.0	1.0	0.8	1.6	1.6	23.7	17.4 (73.4)
9. Kerala . . .	—	—	—	—	1.5	—	0.1	—	1.6	—
10. Madhya Pradesh .	—	—	—	—	6.4	1.2	1.6	0.1	8.0	1.3 (16.2)
11. Maharashtra . . .	—	—	—	—	—	—	—	—	—	—
12. Orissa . . .	—	—	—	—	0.4	0.4	—	—	0.4	0.4 (100.0)
13. Rajasthan . . .	—	—	—	—	4.5	3.5	0.4	0.2	4.9	3.7 (75.5)
14. Tamil Nadu . . .	—	—	10.4	8.5	0.1	0.1	0.1	0.1	10.6	18.7 (82.1)
15. Uttar Pradesh . . .	0.1	—	1.4	1.1	3.2	1.8	0.2	0.1	4.9	3.0 (61.2)
16. West Bengal . . .	—	—	18.1	0.6	7.7	—	3.2	0.7	29.0	1.3 (4.5)
All States . . .	7.9	3.8	77.1	47.2	38.5	15.1	15.6	11.2	139.1	77.3 (55.6)

Figures in brackets in col. 11 are percentages to area figures in col. 10.

## Distribution of Beneficiaries Reporting awareness through different sources.

Sl. No.	State	No. of beneficiaries	No. Reporting Awareness of S.F. Prog.	Number Reporting Awareness Through							Relative	Other sources
				Radio/ TV/ News papers	Pamphlets Hand outs	Block Agency	Forest Deptt.	Fellow cultivators				
1	2	3	4	5	6	7	8	9	10	11		
1. Andhra Pradesh . . . . .		42	42 (100.00)	3 (7.14)	—	1 (2.38)	33 (78.57)	6 (14.29)	1 (2.38)	4 (9.52)		
2. Assam . . . . .		35	35 (100.00)	4 (11.43)	1 (2.86)	—	20 (57.14)	3 (8.57)	6 (17.14)	4 (11.43)		
3. Bihar . . . . .		71	71 (100.00)	3 (4.23)	1 (1.41)	—	47 (66.20)	35 (49.30)	17 (23.94)	18 (25.35)		
4. Gujarat . . . . .		58	58 (100.00)	5 (8.62)	3 (5.17)	4 (6.90)	28 (48.28)	25 (43.10)	4 (6.90)	3 (5.17)		
5. Haryana . . . . .		40	40 (100.00)	—	—	—	35 (87.50)	8 (20.00)	13 (32.50)	—		
6. Himachal Pradesh . . . .		33	33 (100.00)	3 (9.09)	—	1 (3.03)	28 (84.85)	8 (24.24)	—	2 (6.06)		
7. Jammu & Kashmir . . . .		40	40 (100.00)	31 (77.50)	1 (2.50)	—	37 (92.00)	4 (10.00)	1 (2.50)	2 (5.00)		
8. Karnataka . . . . .		75	75 (100.00)	9 (12.00)	3 (4.00)	10 (13.33)	69 (92.00)	29 (38.67)	10 (13.33)	9 (12.00)		
9. Kerala . . . . .		34	34 (100.00)	7 (20.59)	—	—	8 (23.53)	6 (17.65)	6 (17.65)	13 (38.24)		
10. Madhay Prodesch . . . .		105	105 (100.00)	25 (23.81)	5 (4.76)	2 (1.90)	95 (90.48)	10 (9.52)	1 (0.95)	2 (1.90)		
11. Maharashtra . . . . .		61	61 (100.00)	1 (1.64)	2 (2.28)	5 (8.20)	59 (96.72)	2 (3.28)	6 (9.84)	20 (32.79)		
12. Orissa . . . . .		76	76 (100.00)	6 (7.89)	—	3 (3.95)	31 (40.79)	14 (18.42)	19 (25.00)	33 (43.42)		
13. Rajasthan . . . . .		71	71 (100.00)	9 (12.68)	—	9 (12.68)	47 (66.20)	27 (38.03)	3 (4.23)	23 (32.39)		
14. Tamil Nadu . . . . .		45	45 (100.00)	11 (24.24)	—	1 (2.22)	30 (66.67)	17 (37.78)	2 (4.44)	1 (2.22)		
5. Uttar Praesh . . . . .		63	63 (100.00)	18 (28.57)	4 (6.35)	8 (12.70)	29 (46.03)	34 (53.97)	1 (1.59)	5 (7.94)		
6. West Bengal . . . . .		58	58 (100.00)	2 (3.45)	—	—	25 (43.10)	13 (22.41)	11 (18.97)	8 (13.79)		
All States . . . . .		907	907 (100.00)	137 (15.10)	20 (2.21)	44 (4.85)	621 (68.47)	241 (26.57)	101 (11.14)	147 (16.21)		

Figures in brackets are percentage to total in col. 4

Distribution of beneficiary households according to the sources of contact for adopting the Programme.

Sl. No.	State	No. of selected Beneficiaries	No. contacted for adoption of Programme		Number contacted by						
			By self	By Agencies	Village Pradhan	Block Agency	Forest Deptt.	Ag./Coop/ Panchayat Deptt.	Revenue Deptt.	Fellow Cultivators	Others
1	2	3	4	5	6	7	8	9	10	11	12
1. Andhra Pradesh .		42	17 (40.48)	22 (52.38)	1 (4.55)	1 (4.55)	20 (90.91)	—	—	—	—
2. Assam . . .		35	24 (68.57)	11 (31.43)	—	—	11 (100.00)	—	—	—	—
3. Bihar . . .		71	30 (42.25)	40 (56.34)	1 (2.50)	—	20 (50.00)	1 (2.50)	—	21 (52.50)	1 (2.50)
4. Gujarat . . .		58	6 (10.34)	33 (56.90)	—	3 (9.09)	29 (87.88)	1 (3.03)	—	2 (6.06)	—
5. Haryana . . .		40	—	40 (100.00)	—	—	40 (100.00)	—	—	6 (15.00)	—
6. Himachal Pradesh		33	9 (27.27)	24 (72.72)	1 (4.17)	—	23 (95.83)	—	—	3 (12.50)	—
7. Jammu & Kashmir		40	10 (25.00)	30 (75.00)	—	—	30 (100.00)	—	—	—	—
8. Karnataka . .		75	15 (20.00)	59 (78.67)	6 (10.17)	7 (11.86)	58 (98.31)	—	—	22 (37.29)	—
9. Kerala . . .		34	13 (38.24)	4 (11.76)	—	1 (25.00)	1 (25.00)	2 (50.00)	—	—	—
10. Madhya Pradesh.		105	40 (38.10)	65 (61.90)	7 (10.77)	1 (1.54)	65 (100.00)	3 (4.62)	—	3 (4.62)	—
11. Maharashtra .		61	2 (3.28)	59 (96.72)	14 (23.73)	2 (3.39)	56 (94.92)	—	—	4 (6.78)	7 (11.86)
12. Orissa . . .		76	68 (89.47)	6 (7.89)	—	—	5 (83.33)	—	—	—	1 (16.67)
13. Rajasthan . .		71	23 (32.39)	48 (67.16)	14 (29.17)	8 (16.67)	38 (79.17)	—	—	10 (20.83)	—
14. Tamil Nadu .		45	—	37 (82.22)	—	—	33 (89.19)	—	—	8 (21.62)	—
15. Uttar Pradesh .		63	6 (9.52)	46 (73.02)	—	5 (10.87)	26 (56.52)	—	2 (4.35)	16 (34.78)	2 (4.35)
16. West Bengal .		58	20 (34.48)	24 (41.38)	—	—	21 (87.50)	3 (12.50)	—	—	—
All States . . .		907	283 (31.20)	548 (60.42)	44 (8.03)	28 (5.11)	476 (86.86)	10 (1.82)	2 (0.36)	95 (17.34)	11 (2.01)

Figures in parenthesis in cols. 4 &amp; 5 are percentages to total in col. 3

Figures in parenthesis in cols. 6 to 12 are percentages to total in col. 5

## Distribution of Beneficiaries by Frequency of Contact

State	No. of beneficiaries contacted for adoption	No. of times contacted before adoption			
		Once	2-3 times	4-5 times	More than 5 times
1	2	3	4	5	6
1. Andhra Pradesh . . . . .	22	13 (59.09)	8 (36.36)	1 (4.55)	—
2. Assam . . . . .	11	11 (100.00)	—	—	—
3. Bihar . . . . .	40	21 (52.50)	17 (42.50)	2 (5.00)	—
4. Gujarat . . . . .	33	5 (15.15)	14 (42.42)	7 (21.21)	7 (21.21)
5. Haryana . . . . .	40	4 (10.00)	31 (77.50)	5 (12.50)	—
6. Himachal Pradesh . . . . .	24	1 (4.17)	11 (45.83)	10 (41.67)	2 (8.33)
7. Jammu & Kashmir . . . . .	30	4 (13.33)	18 (60.00)	7 (23.33)	1 (3.33)
8. Karnataka . . . . .	59	21 (35.59)	17 (28.81)	5 (8.47)	16 (27.12)
9. Kerala . . . . .	4	4 (100.00)	—	—	—
10. Madhya Pradesh . . . . .	65	43 (66.15)	17 (26.15)	4 (6.15)	1 (1.54)
11. Maharashtra . . . . .	59	14 (23.73)	44 (74.58)	1 (1.69)	—
12. Orissa . . . . .	6	5 (83.33)	1 (16.67)	—	—
13. Rajasthan . . . . .	48	11 (22.92)	33 (68.75)	4 (8.33)	—
14. Tamil Nadu . . . . .	37	6 (16.22)	23 (62.16)	8 (21.62)	—
15. Uttar Pradesh . . . . .	46	15 (32.61)	28 (60.87)	1 (2.17)	2 (4.35)
16. West Bengal . . . . .	24	11 (45.83)	9 (37.50)	4 (16.67)	—
All-States . . . . .	548 (60.42)	189 (34.49)	271 (49.45)	59 (10.77)	29 (5.29)

Figs. in Parenthesis are percentages to Figs. in col. 2 while that in Col. 2 is percentage of total beneficiaries.



## Reasons for taking up the programme

State	No. of selected beneficiaries	No. reported reasons for taking up Farm Forestry						
		Fodder	Fuel	Small timber	Fruits	To check soil erosion	To earn extra income	Any other
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh	42	1 (2.38)	22 (52.38)	38 (90.48)	—	—	18 (42.86)	1 (2.38)
2. Assam	35	—	24 (68.57)	24 (68.57)	6 (17.41)	—	—	8 (22.86)
3. Bihar	71	1 (1.41)	37 (52.11)	36 (60.70)	41 (57.75)	—	27 (38.03)	1 (1.41)
4. Gujarat	58	—	6 (10.34)	17 (29.31)	—	1 (1.72)	30 (51.72)	11 (18.97)
5. Haryana	40	—	—	1 (2.50)	—	—	38 (95.00)	2 (5.00)
6. Himachal Pradesh	33	9 (27.27)	13 (39.39)	12 (36.36)	—	3 (9.09)	30 (90.91)	2 (6.06)
7. Jammu & Kashmir	40	25 (62.50)	39 (97.50)	36 (90.00)	—	4 (10.0)	7 (17.50)	7 (17.50)
8. Karnataka	75	6 (8.00)	60 (80.00)	62 (82.67)	—	4 (5.33)	31 (41.33)	15 (20.00)
9. Kerala	34	—	15 (44.12)	9 (26.47)	—	1 (2.94)	10 (29.41)	1 (2.94)
10. Madhya Pradesh	105	29 (27.62)	76 (72.38)	84 (80.00)	48 (45.71)	—	8 (7.62)	—
11. Maharashtra	61	12 (19.67)	11 (18.03)	9 (14.75)	5 (8.20)	3 (4.92)	6 (9.84)	15 (24.59)
12 Orissa	76	—	40 (52.63)	34 (44.74)	14 (18.42)	—	2 (2.63)	7 (9.21)
13 Rajasthan	71	12 (16.90)	35 (49.30)	45 (63.38)	17 (23.94)	—	29 (40.85)	5 (7.04)
14 Tamil Nadu	45	—	2 (4.44)	22 (48.89)	3 (6.67)	—	17 (37.78)	6 (13.33)

Annex. 5.14 (Concl'd.)

1	2	3	4	5	6	7	8	9
15. Uttar Pradesh	63	10 (15.87)	43 (68.25)	45 (71.43)	1 (1.59)	8 (12.70)	32 (59.79)	6 (9.52)
16. West Bengal	58	13 (22.41)	41 (70.69)	22 (37.93)	4 (6.90)	3 (5.17)	22 (37.93)	13 (22.41)
All states	907	118 (13.01)	464 (51.16)	496 (54.69)	139 (15.33)	27 (2.98)	307 (33.85)	100 (11.03)

Figs. in parenthesis are percentages to figs in col. 2.



**Agency advising on appropriate season for plantation, method of advice, advice found not useful and suggestions for improvement in advice given**

Sl. No.	State	No. of selected beneficiaries	No. reporting agencies advising			
			Any Agency	Forest Department	Fellow cultivators/relations	Others
1		2	3	4	5	6
1. Andhra Pradesh		42	25 (59.52)	23 (92.00)	—	2 (8.00)
2. Assam		35	1 (2.86)	1 (100.00)	—	—
3. Bihar		71	66 (92.96)	30 (45.45)	30 (45.45)	7 (10.61)
4. Gujarat		58	35 (60.34)	32 (91.43)	3 (8.57)	4 (11.43)
5. Haryana		40	40 (100.00)	40 (100.00)	22 (55.00)	9 (22.50)
6. Himachal Pradesh		33	32 (96.97)	31 (96.88)	5 (15.63)	2 (6.25)
7. Jammu & Kashmir		40	39 (97.50)	39 (100.00)	—	—
8. Karnataka		75	62 (82.67)	62 (100.00)	23 (37.10)	17 (27.42)
9. Kerala		35	1 (2.94)	1 (100.00)	—	—
10. Madhya Pradesh		105	69 (65.71)	50 (72.46)	2 (2.90)	20 (28.99)
11. Maharashtra		61	60 (98.36)	58 (96.67)	4 (6.67)	22 (36.67)
12. Orissa		76	76 (100.00)	38 (50.00)	31 (40.79)	18 (23.68)
13. Rajasthan		71	71 (100.00)	53 (74.65)	21 (29.58)	31 (43.66)
14. Tamil Nadu		45	36 (80.00)	34 (94.44)	2 (5.56)	—
15. Uttar Pradesh		63	53 (84.13)	31 (58.49)	17 (32.08)	11 (20.75)
16. West Bengal		58	51 (87.93)	44 (86.27)	5 (9.80)	3 (5.88)
All States		907	717 (79.05)	567 (79.08)	165 (23.01)	146 (20.36)

Figures in bracket in cols. 3 & 7 are percentages to total in Col. 2.

Figures in bracket in cols. 4 to 6 are percentages to total in col. 3.

No. reporting method of advice				No. reporting advice not useful	Suggestions for Improvement				
Any method	Holding meeting & discussion	Individual persuasion	Others		Pamphlets, handbills need be distributed	Practical demonstration need be given	Film shows should be arranged	Some official should be ready available	Others
7	8	9	10	11	12	13	14	15	16
25 (59.52)	19 (76.00)	6 (24.00)		—	—	—	—	—	—
1 (2.86)	1 (100.00)	—	—	—	—	—	—	—	—
65 (91.55)	7 (70.77)	41 (63.08)	18 (27.69)	—	—	—	—	—	—
35 (60.34)	31 (88.51)	20 (57.14)	2 (5.71)	1 (2.86)	—	—	1 (2.86)	—	—
40 (100.00)	40 (100.00)	30 (75.00)	1 (2.50)	—	—	—	—	—	—
32 (96.97)	20 (62.50)	14 (43.75)	—	—	—	—	—	—	—
39 (97.50)	24 (61.54)	15 (38.46)	—	—	—	—	—	—	—
62 (82.67)	38 (61.29)	28 (45.16)	1 (1.61)	—	—	—	—	—	—
1 (2.94)	1 (100.00)	—	—	—	—	—	—	—	—
57 (54.29)	54 (94.74)	3 (5.25)	2 (3.51)	—	—	—	—	—	—
60 (98.36)	23 (38.33)	54 (90.00)	—	—	—	—	—	—	—
76 (100.00)	20 (26.32)	38 (50.00)	19 (25.00)	3 (3.95)	—	—	—	3 (3.95)	—
71 (100.00)	30 (42.25)	50 (70.42)	4 (5.63)	—	—	—	—	—	—
36 (80.00)	—	36 (100.00)	1 (2.78)	—	—	—	—	—	—
53 (84.13)	17 (32.08)	9 (16.98)	29 (54.72)	—	—	—	—	—	—
51 (87.93)	15 (29.41)	13 (25.49)	25 (49.02)	8 (15.69)	2 (3.92)	2 (3.92)	—	—	6 (11.76)
704 (77.62)	340 (48.30)	357 (50.71)	702 (14.49)	12 (1.70)	2 (0.28)	2 (0.28)	1 (0.14)	3 (0.43)	6 (0.85)

Figures in bracket in cols. 8 to 16 are percentages to total in col. 7.

**Agency advising on Site preparation, method of advice, advice found not useful  
and suggestions for improvement**

Sl. No.	State	No. of selected beneficiaries	No. of reporting agencies advising			
			Any agency	Forest Department	Fellow cultivators/relations	Others
1		2	3	4	5	6
1. Andhra Pradesh . . . . .		42	16 (38.10)	15 (93.75)	—	1 (6.25)
2. Assam . . . . .		35	1 (2.88)	1 (100.00)	—	—
3. Bihar . . . . .		71	66 (92.96)	30 (45.45)	31 (46.97)	6 (9.09)
4. Gujarat . . . . .		58	35 (60.34)	32 (91.43)	4 (11.43)	1 (2.86)
5. Haryana . . . . .		40	39 (97.50)	39 (100.00)	25 (64.10)	3 (7.69)
6. Himachal Pradesh . . . . .		33	30 (90.91)	28 (93.33)	3 (10.00)	—
7. Jammu & Kashmir . . . . .		40	39 (97.50)	39 (100.00)	—	—
8. Karnataka . . . . .		75	62 (82.67)	61 (98.39)	18 (28.03)	—
9. Kerala . . . . .		34	1 (2.94)	1 (100.00)	—	—
10. Madhya Pradesh . . . . .		105	72 (68.57)	53 (73.61)	6 (8.33)	14 (19.45)
11. Maharashtra . . . . .		61	60 (98.36)	58 (96.67)	3 (5.00)	—
12. Orissa . . . . .		76	75 (98.68)	36 (48.00)	31 (41.33)	13 (17.33)
13. Rajasthan . . . . .		71	70 (98.59)	56 (80.00)	20 (28.57)	1 (1.43)
14. Tamil Nadu . . . . .		45	36 (80.00)	33 (91.67)	3 (8.33)	—
15. Uttar Pradesh . . . . .		63	42 (66.67)	27 (64.29)	12 (28.57)	3 (7.14)
16. West Bengal . . . . .		58	51 (87.93)	44 (86.27)	5 (9.80)	3 (5.88)
All States . . . . .		907	695 (76.63)	553 (79.57)	161 (23.17)	45 (6.47)

Figures in bracket in Cols. 3 & 7 are percentages to total in Col. 2.

Figures in bracket in Cols. 4 to 6 are percentages to total in Col. 3.

Sl. No. of State	No. reporting method of advice				Suggestions for Improvement					
	Any method	Holding meeting & discussion	Individual persuasion	Others	No. re- porting advice not useful	Pamph- lets/hand- bills need be distributed	Practical demonstra- tion need be given	Film show need to be arranged	Some official should be readily available	Others
	7	8	9	10	11	12	13	14	15	16
1.	16 (38·10)	11 (68·75)	5 (31·25)	—	—	—	—	—	—	—
2.	1 (2·86)	1 (100·00)	—	—	—	—	—	—	—	—
3.	65 (91·55)	8 (12·31)	40 (61·54)	18 (27·69)	—	—	—	—	—	—
4.	35 (60·34)	31 (88·57)	19 (54·29)	2 (5·71)	—	—	—	—	—	—
5.	40 (100·00)	40 (100·00)	30 (75·00)	1 (2·50)	—	—	—	—	—	—
6.	30 (90·91)	20 (66·67)	12 (40·00)	—	—	—	—	—	—	—
7.	39 (97·50)	24 (61·54)	15 (38·16)	—	—	—	—	—	—	—
8.	62 (82·07)	37 (59·68)	24 (38·71)	9 (14·32)	—	—	—	—	—	—
9.	1 (2·94)	1 (100·00)	—	—	—	—	—	—	—	—
10.	66 (62·86)	52 (78·79)	8 (12·12)	8 (12·12)	—	—	—	—	—	—
11.	60 (98·36)	22 (36·67)	39 (65·00)	15 (25·00)	2 (3·33)	—	1 (1·67)	1 (1·67)	2 (3·33)	—
12.	75 (98·68)	18 (24·00)	38 (50·67)	19 (25·33)	15 (20·00)	—	8 (10·67)	4 (5·33)	11 (14·67)	—
13.	70 (98·59)	17 (24·29)	49 (70·00)	12 (17·14)	—	—	—	—	—	—
14.	36 (80·00)	1 (2·78)	35 (97·22)	1 (2·78)	—	—	—	—	—	—
15.	42 (66·67)	15 (35·71)	9 (21·43)	20 (47·62)	—	—	—	—	—	—
16.	51 (87·93)	16 (29·41)	13 (25·49)	27 (52·94)	1 (1·96)	—	1 (1·96)	—	—	—
	689 (75·96)	313 (45·43)	336 (48·71)	132 (19·16)	18 (2·61)	—	10 (1·45)	5 (0·73)	13 (1·89)	—

Figures in brackets in Cols. 8 to 16 are percentages to total in Col. 7.

**Agency advising on selection of plants, method of advice, advice found not useful  
and suggestions for improvement**

Sl No.	State	No. of selected beneficiaries	No. reporting agencies advising			
			Any agency	Forest Department	Fellow cultivators/ relations	Others
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .		42	16 (38.10)	15 (93.75)	—	—
2. Assam . . . . .		35	1 (2.86)	—	—	1 (100.00)
3. Bihar . . . . .		71	63 (88.73)	40 (63.49)	18 (28.57)	4 (6.35)
4. Gujarat . . . . .		58	35 (60.34)	31 (88.57)	6 (17.14)	1 (2.86)
5. Haryana . . . . .		40	40 (100.00)	39 (97.50)	25 (62.50)	3 (7.5)
6. Himachal Pradesh . . . . .		33	30 (90.91)	28 (93.33)	2 (6.67)	—
7. Jammu & Kashmir . . . . .		40	39 (97.50)	39 (100.00)	—	—
8. Karnataka . . . . .		75	60 (80.00)	60 (100.00)	13 (21.67)	—
9. Kerala . . . . .		34	1 (2.94)	1 (100.00)	—	—
10. Madhya Pradesh . . . . .		105	72 (68.57)	53 (73.61)	5 (6.94)	10 (13.89)
11. Maharashtra . . . . .		61	60 (98.36)	57 (95.00)	4 (6.67)	6 (10.00)
12. Orissa . . . . .		76	66 (86.84)	26 (39.30)	31 (46.97)	10 (15.15)
13. Rajasthan . . . . .		71	71 (100.00)	50 (70.42)	31 (43.66)	—
14. Tamil Nadu . . . . .		45	36 (80.00)	31 (91.67)	3 (8.33)	—
15. Uttar Pradesh . . . . .		63	51 (80.95)	29 (56.86)	18 (35.29)	4 (7.84)
16. West Bengal . . . . .		58	50 (86.21)	44 (88.00)	5 (10.00)	2 (4.00)
All States		907	691 (76.19)	545 (78.87)	161 (23.30)	41 (5.93)

Figures in brackets in Cols. 4 & 8 are percentages to total in Col. 3

Figures in brackets in Cols. 5 & 7 are percentages to total in Col. 4

Any method	Holding meeting & discussion	Individual persuasion	Others	No. reporting advice not useful	Suggestions for Improvement			
					Pamphlets Hand-bills need be distributed	Practical demonstration need be given	Film shows need to be arranged	Others
8	9	10	11	12	13	14	15	16
16 (38.10)	11 (68.75)	5 (31.25)	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
62 (87.32)	7 (11.29)	41 (66.13)	15 (24.19)	—	—	—	—	—
35 (60.34)	29 (82.86)	24 (68.57)	2 (5.71)	1 (2.86)	1 (2.86)	—	—	—
40 (100.00)	40 (100.00)	30 (75.00)	1 (2.50)	—	—	—	—	—
30 (90.91)	20 (66.54)	12 (40.00)	—	—	—	—	—	—
39 (97.50)	24 (61.54)	15 (38.46)	—	4 (10.26)	—	—	—	4 (10.26)
60 (80.00)	24 (40.00)	25 (41.67)	15 (25.00)	—	—	—	—	—
1 (2.94)	1 (100.00)	—	—	—	—	—	—	—
62 (59.05)	35 (56.45)	27 (43.55)	2 (3.23)	—	—	—	—	—
60 (98.35)	35 (58.33)	38 (63.33)	2 (3.33)	—	—	—	—	—
66 (86.84)	16 (24.24)	39 (59.09)	11 (16.67)	9 (13.64)	—	1 (1.52)	—	8 (12.12)
71 (100.00)	20 (28.17)	48 (67.61)	7 (9.86)	—	—	—	—	—
36 (80.00)	1 (2.78)	35 (97.22)	1 (2.78)	—	—	—	—	—
51 (80.95)	16 (31.37)	9 (17.65)	28 (54.90)	—	—	—	—	—
50 (86.21)	15 (30.00)	12 (24.00)	25 (50.00)	1 (2.00)	1 (2.00)	—	—	—
679 (74.86)	294 (43.30)	360 (53.02)	109 (16.05)	15 (2.21)	2 (0.29)	1 (0.15)	—	12 (1.77)

Figures in bracket in Cols. 9 to 16 are percentages to total in Col. 8.



**Agency advising on method of plantations, method of advice, advice found not useful  
and suggestions for improvement**

Sl. No.	State	No. of selected beneficiaries	No. reporting agency advising			
			Any agency	Forest Department	Fellow cultivators/ relations	Others
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .		42	16 (38.10)	15 (93.15)	—	—
2. Assam . . . . .		35	1 (2.86)	1 (100.00)	—	—
3. Bihar . . . . .		71	62 (87.32)	40 (64.52)	18 (29.03)	4 (6.45)
4. Gujarat . . . . .		58	35 (60.34)	32 (91.43)	4 (11.43)	1 (2.86)
5. Haryana . . . . .		40	39 (97.50)	39 (100.00)	26 (66.67)	2 (5.13)
6. Himachal Pradesh . . . . .		33	29 (87.88)	28 (96.55)	1 (3.45)	—
7. Jammu & Kashmir . . . . .		40	39 (97.50)	39 (100.00)	—	—
8. Karnataka . . . . .		75	62 (82.67)	59 (95.16)	22 (35.48)	—
9. Kerala . . . . .		34	1 (2.94)	1 (100.00)	—	—
10. Madhya Pradesh . . . . .		105	79 (75.24)	74 (93.64)	3 (3.80)	—
11. Maharashtra . . . . .		61	60 (98.36)	57 (95.00)	4 (6.67)	6 (10.00)
12. Orissa . . . . .		76	65 (85.53)	26 (40.00)	31 (47.69)	15 (23.08)
13. Rajasthan . . . . .		71	71 (100.00)	59 (83.10)	12 (16.90)	—
14. Tamil Nadu . . . . .		45	36 (80.00)	34 (94.44)	3 (8.33)	—
15. Uttar Pradesh . . . . .		63	50 (79.37)	30 (60.00)	17 (34.00)	3 (6.00)
16. West Bengal . . . . .		58	46 (79.31)	43 (93.48)	2 (4.35)	2 (4.35)
All States . . . . .		907	691 (76.19)	577 (83.90)	143 (20.69)	33 (4.78)

Figures in bracket in Col. 4 are percentages to total in Col. 3.

Figures in bracket in Cols. 5 to 7 are percentages to total in Col. 4.

Sl. No.	State	No. reporting method of advice				Suggestions for Improvement					
		Any methods	Holding meeting & discussions	Individual persuasion	Others	No. reporting advice not useful	Pamphlets/hand bills need be distributed	Practical demonstrations need be given	Film show need be arranged	Some official should be readily available	Others
1	2	8	9	10	11	12	13	14	15	16	17
1.	Andhra Pradesh .	16 (38.10)	11 (68.75)	5 (31.25)	—	—	—	—	—	—	—
2.	Assam .	1 (2.86)	1 (100.00)	—	—	—	—	—	—	—	—
3.	Bihar .	60 (84.51)	7 (11.67)	40 (66.67)	14 (23.33)	—	—	—	—	—	—
4.	Gujarat .	35 (60.34)	31 (88.57)	20 (57.14)	2 (5.71)	—	—	—	—	—	—
5.	Haryana .	40 (100.00)	40 (100.00)	30 (75.00)	1 (2.50)	—	—	—	—	—	—
6.	Himachal Pradesh	29 (87.88)	20 (68.97)	11 (37.93)	—	—	—	—	—	—	—
7.	J. & K. .	39 (97.50)	24 (61.54)	15 (38.46)	—	—	—	—	—	—	—
8.	Kernataka .	62 (82.67)	31 (50.00)	26 (41.94)	20 (32.26)	—	—	—	—	—	—
9.	Kerala .	1 (2.94)	—	—	1 (100.00)	—	—	—	—	—	—
10.	Madhya Pradesh .	79 (75.24)	58 (73.42)	1 (1.27)	27 (34.18)	10 (12.66)	—	10 (12.66)	—	1 (1.27)	—
11.	Maharashtra .	60 (98.36)	19 (31.67)	38 (63.33)	18 (30.00)	6 (10.00)	—	4 (6.67)	4 (6.67)	4 (6.67)	—
12.	Orissa .	65 (85.53)	16 (24.62)	38 (58.46)	11 (16.92)	15 (23.08)	—	8 (12.31)	5 (7.69)	14 (21.54)	—
13.	Rajasthan .	71 (100.00)	9 (12.68)	48 (67.61)	18 (25.35)	—	—	—	—	—	—
14.	Tamil Nadu .	36 (88.00)	1 (2.78)	35 (97.22)	1 (2.78)	1 (2.78)	—	—	—	—	—
15.	Uttar Pradesh .	50 (79.37)	16 (32.00)	9 (18.00)	27 (54.00)	—	—	—	—	—	—
16.	West Bengal .	46 (79.31)	13 (28.26)	10 (21.74)	27 (58.70)	4 (8.70)	—	4 (8.70)	—	—	—
All States .		690 (76.07)	297 (43.04)	326 (47.25)	167 (24.20)	36 (5.22)	—	26 (3.77)	9 (1.30)	19 (2.75)	—

Figures in bracket in Cols. 9 to 17 are percentages to total in Col. 8.  
 Figures in bracket in col. 8 are percentages to col. 3.

Agency advising on application of fertilisers & insecticides, method of advice, advice found not useful, and suggestions for improvement

Sl. No.	State	No. of selected beneficiaries	No. reporting agency advising			
			Any agency	Forest Department	Fallow cultivator/relations	Others
1		2	3	4	5	6
1. Andhra Pradesh . . . . .		42	15 (35.71)	14 (93.33)	—	—
2. Assam . . . . .		35	—	—	—	—
3. Bihar . . . . .		71	50 (70.42)	30 (60.00)	19 (38.00)	1 (2.00)
4. Gujarat . . . . .		58	29 (50.00)	25 (86.21)	4 (13.79)	1 (3.45)
5. Haryana . . . . .		40	40 (100.00)	39 (97.50)	25 (62.50)	3 (7.50)
6. Himachal Pradesh . . . . .		33	27 (81.82)	26 (96.30)	1 (3.70)	—
7. Jammu & Kashmir . . . . .		40	39 (97.50)	39 (100.00)	—	—
8. Karnataka . . . . .		75	42 (56.00)	41 (97.62)	5 (14.29)	—
9. Kerala . . . . .		34	—	—	—	—
10. Madhya Pradesh . . . . .		105	72 (68.57)	55 (76.39)	4 (5.56)	8 (11.11)
11. Maharashtra . . . . .		61	4 (6.56)	4 (100.00)	1 (25.00)	—
12. Orissa . . . . .		76	41 (53.95)	3 (7.32)	30 (73.17)	—
13. Rajasthan . . . . .		71	65 (91.55)	56 (86.15)	14 (21.54)	—
14. Tamil Nadu . . . . .		45	12 (26.67)	11 (91.67)	1 (8.33)	—
15. Uttar Pradesh . . . . .		63	30 (47.62)	24 (80.00)	5 (16.67)	3 (10.00)
16. West Bengal . . . . .		58	47 (81.03)	42 (89.36)	1 (2.13)	3 (6.39)
All States . . . . .		907	513 (56.56)	409 (79.73)	111 (21.64)	28 (5.46)

Figures in bracket in Cols. 3 & 7 are percentages to total in Col. 2.

Figures in bracket in Cols. 4 to 6 are percentages to total in Col. 3.

Sl. No.	State	No. of reporting method of advice			
		Any method	Holding meeting & discussion	Individual persuasion	Others
1		7	8	9	10
1. Andhra Pradesh . . . . .		16 (38.10)	11 (68.75)	5 (31.25)	—
2. Assam . . . . .		—	—	—	—
3. Bihar . . . . .		49 (69.01)	7 (14.29)	25 (51.02)	18 (36.73)
4. Gujarat . . . . .		29 (50.00)	26 (89.66)	18 (62.07)	—
5. Haryana . . . . .		40 (100.00)	40 (100.00)	30 (75.00)	1 (2.50)
6. Himachal Pradesh . . . . .		28 (84.85)	20 (71.43)	10 (35.71)	—
7. Jammu & Kashmir . . . . .		39 (97.50)	24 (61.54)	15 (38.46)	—
8. Karnataka . . . . .		42 (56.00)	36 (85.71)	7 (16.67)	7 (16.67)
9. Kerala . . . . .		—	—	—	—
10. Madhya Pradesh . . . . .		64 (60.95)	45 (70.31)	3 (4.69)	19 (29.69)
11. Maharashtra . . . . .		4 (6.56)	4 (100.00)	—	—
12. Orissa . . . . .		41 (53.95)	3 (7.32)	37 (90.24)	1 (2.44)
13. Rajasthan . . . . .		65 (91.55)	16 (24.62)	48 (73.85)	5 (7.69)
14. Tamil Nadu . . . . .		14 (31.11)	2 (14.29)	12 (85.71)	—
15. Uttar Pradesh . . . . .		30 (47.62)	15 (50.00)	9 (30.00)	8 (26.67)
16. West Bengal . . . . .		47 (81.03)	13 (27.66)	11 (23.40)	27 (57.45)
All States . . . . .		508 (56.01)	262 (51.57)	230 (45.28)	86 (16.93)

Figures in bracket in Col. 8 to 16 are percentages to total in Col. 7.

Sl. No.	State	Suggestions for Improvement					
		No. reporting advice not useful	Pamphlets/ hand bills need to be distributed	Practical demonstration need be given	Film shows need be arranged	Some official should be readily available	Others
1		11	12	13	14	15	16
1. Andhra Pradesh		—	—	—	—	—	—
2. Assam		—	—	—	—	—	—
3. Bihar		1 (2.04)	—	—	—	—	1 (2.04)
4. Gujarat		1 (3.45)	—	—	1 (3.45)	—	—
5. Haryana		1 (2.50)	1 (2.50)	—	—	—	—
6. Himachal Pradesh		—	—	—	—	—	—
7. Jammu & Kashmir		—	—	—	—	—	—
8. Karnataka		8 (19.05)	—	3 (7.14)	—	5 (11.90)	2 (4.76)
9. Kerala		—	—	—	—	—	—
10. Madhya Pradesh		1 (1.59)	—	1 (1.59)	—	1 (1.59)	—
11. Maharashtra		—	—	—	—	—	—
12. Orissa		2 (4.88)	—	2 (4.88)	—	1 (2.44)	1 (2.44)
13. Rajasthan		22 (33.85)	1 (1.54)	18 (27.69)	4 (6.15)	14 (21.54)	8 (12.31)
14. Tamil Nadu		7 (46.67)	—	2 (13.33)	—	2 (13.33)	3 (20.00)
15. Uttar Pradesh		—	—	—	—	—	—
16. West Bengal		6 (12.77)	—	—	—	—	6 (12.77)
All States		49 (9.65)	2 (0.39)	26 (5.12)	5 (0.98)	23 (4.53)	21 (4.13)

## Direction on clearing the unwanted growth

Sl. No.	State	No. given directions	No. followed directions	No. not followed directions	Reasons for not following directions			Remarks
					Not convinced	Indifferent attitude	Any other	
1		2	3	4	5	6	7	8
1. Andhra Pradesh		16	16 (100.00)	—	—	—	—	
2. Assam		2	2 (100.00)	—	—	—	—	
3. Bihar		67	66 (98.51)	1 (1.49)	1 (100.00)	—	—	
4. Gujarat		57	55 (96.42)	2 (5.51)	1 (50.00)	—	1 (50.00)	
5. Haryana		40	40 (100.00)	—	—	—	—	
6. Himachal Pradesh		33	31 (93.94)	2 (6.06)	—	—	2 (100.00)	
7. Jammu & Kashmir		40	40 (100.00)	—	—	—	—	
8. Karnataka		52	52 (100.00)	—	—	—	—	
9. Kerala		1	1 (100.00)	—	—	—	—	
10. Madhya Pradesh		67	67 (100.00)	—	—	—	—	
11. Maharashtra		61	61 (100.00)	—	—	—	—	
12. Orissa		38	36 (94.74)	2 (5.26)	—	2 (100.00)	—	
13. Rajasthan		71	71 (100.00)	—	—	—	—	
14. Tamil Nadu		35	35 (100.00)	—	—	—	—	
15. Uttar Pradesh		47	47 (100.00)	—	—	—	—	
16. West Bengal		51	46 (90.20)	5 (9.80)	4 (80.00)	—	1 (20.00)	
All India		678	666 (98.23)	12 (1.77)	6 (50.00)	2 (16.67)	4 (33.37)	

(i) Figures in parenthesis in cols. 5 to 7 are percentages to figures in Col. 4.

(ii) Figures in parenthesis in col. 3 are percentages to total in col. 2.

## Direction on digging of pits.

State	No. given directions	No. followed directions	No. not followed directions	Reasons for not following directions			
				Not convinced	Lack of finance	Indifferent attitude	Any Other
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	16	15 (93.75)	1 (6.25)	—	—	—	1 (100.00)
2. Assam . . . . .	2	2 (100.00)	—	—	—	—	—
3. Bihar . . . . .	67	66 (98.51)	1 (1.49)	1 (100.00)	—	—	—
4. Gujarat . . . . .	57	55 (96.49)	2 (3.51)	1 (50.00)	—	—	1 (50.00)
5. Haryana . . . . .	40	40 (100.00)	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	30 (90.91)	3 (9.09)	—	—	—	3 (100.00)
7. Jammu & Kashmir . . . . .	40	39 (97.50)	1 (2.50)	—	—	—	1 (100.00)
8. Karnataka . . . . .	62	51 (82.26)	11 (17.74)	—	6 (54.55)	2 (18.18)	4 (36.36)
9. Kerala . . . . .	1	—	1 (100.00)	1 (100.00)	—	—	—
10. Madhya Pradesh . . . . .	68	64 (94.12)	4 (5.88)	1 (25.00)	1 (25.00)	—	2 (50.00)
11. Maharashtra . . . . .	61	60 (98.36)	1 (1.64)	1 (100.00)	—	—	1 (100.00)
12. Orissa . . . . .	38	17 (44.74)	21 (55.26)	—	—	18 (85.71)	4 (19.05)
13. Rajasthan . . . . .	71	62 (87.32)	9 (12.68)	1 (11.11)	—	—	8 (88.09)
14. Tamil Nadu . . . . .	35	35 (100.00)	—	—	—	—	—
15. Uttar Pradesh . . . . .	44	44 (100.00)	—	—	—	—	—
16. West Bengal . . . . .	51	37 (72.55)	14 (27.45)	2 (14.29)	2 (14.29)	—	10 (71.42)
All States . . . . .	686	617 (89.94)	69 (10.05)	8 (11.59)	8 (11.59)	21 (30.43)	35 (50.72)

(i) Figures in parenthesis in Col. 3 are percentages to total in col. 2.

(ii) Figures in parenthesis in Cols. 5 to 8 are percentages to total in Col. 4.

## Direction on putting manure, fertilisers and insecticides

State	No. given directions	No. followed directions	No. not followed directions	Reasons for not following directions					
				Not convinced	Lack of finance	Non- availa- bility of manure fertiliser insecticides	Scarcity of water for irrigation	Indifferent attitude	Any other
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh . . . . .	16	16 (100.00)	—	—	—	—	—	—	—
2. Assam . . . . .	1	—	1 (100.00)	—	1 (100.00)	—	—	—	—
3. Bihar . . . . .	51	45 (88.24)	6 (11.70)	1 (16.67)	5 (83.33)	2 (33.33)	—	—	—
4. Gujarat . . . . .	36	30 (83.33)	6 (16.67)	1 (16.67)	1 (16.67)	3 (50.00)	—	1 (16.67)	—
5. Haryana . . . . .	40	40 (100.00)	—	—	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	27 (81.82)	6 (18.18)	—	3 (50.00)	—	1 (16.67)	2 (33.33)	1 (16.67)
7. Jammu & Kashmir . . . . .	40	30 (75.00)	10 (25.00)	—	4 (40.00)	—	7 (70.00)	1 (10.00)	—
8. Karnataka . . . . .	62	58 (85.48)	9 (14.52)	1 (11.11)	6 (66.67)	2 (22.22)	2 (22.22)	—	5 (55.55)
9. Kerala . . . . .	1	1 (100.00)	1 (100.00)	1 (100.00)	—	—	—	—	—
10. Madhya Pradesh . . . . .	65	58 (89.23)	7 (10.77)	1 (14.29)	5 (71.43)	1 (14.29)	—	—	—
11. Maharashtra . . . . .	7	7 (100.00)	—	—	—	—	—	—	—
12. Orissa . . . . .	15	—	15 (100.00)	—	4 (26.67)	6 (40.00)	1 (6.67)	8 (53.33)	—
13. Rajasthan . . . . .	69	45 (65.22)	24 (34.78)	6 (25.00)	16 (66.67)	0 (33.33)	4 (16.67)	—	5 (20.83)
14. Tamil Nadu . . . . .	12	8 (67.67)	4 (33.33)	1 (25.00)	3 (75.00)	—	—	—	—
15. Uttar Pradesh . . . . .	32	28 (87.50)	4 (2.50)	—	3 (75.00)	—	—	—	1 (25.00)
16. West Bengal . . . . .	51	46 (90.20)	5 (9.80)	1 (20.00)	2 (40.00)	—	—	1 (20.00)	1 (20.00)
All States . . . . .	531	433 (81.54)	98 (18.46)	13 (13.27)	53 (54.08)	22 (22.45)	15 (15.31)	13 (13.27)	13 (13.27)

(i) Figures in parenthesis in Col. 3 are percentages to total in col. 2.

(ii) Figures in parenthesis in Cols. 5 to 10 are percentage to figures in Col. 4.



## Directions on planting

Sl. No.	State	No. given directions	No. followed directions	No. not followed directions	Reasons for not following directions		
					Not Convinced	Indifferent attitude	Any Other
1		2	3	4	5	6	7
1. Andhra Pradesh		16	16 (100.00)	—	—	—	—
2. Assam		2	2 (100.00)	—	—	—	—
3. Bihar		67	64 (95.52)	3 (4.48)	1 (33.33)	—	2 (66.67)
4. Gujarat		57	57 (100.00)	—	—	—	—
5. Haryana		40	40 (100.00)	—	—	—	—
6. Himachal Pradesh		33	30 (90.91)	3 (9.09)	2 (66.67)	—	1 (33.33)
7. Jammu & Kashmir		40	40 (100.00)	—	—	—	—
8. Karnataka		62	58 (93.56)	4 (6.45)	—	4 (100.00)	—
9. Kerala		1	1 (100.00)	—	—	—	—
10. Madhya Pradesh		79	79 (100.00)	—	—	—	—
11. Maharashtra		61	60 (98.36)	1 (1.64)	1 (100.00)	—	1 (100.00)
12. Orissa		38	34 (89.47)	4 (10.53)	—	4 (100.00)	—
13. Rajasthan		71	71 (100.00)	—	—	—	—
14. Tamil Nadu		35	35 (100.00)	—	—	—	—
15. Uttar Pradesh		51	51 (100.00)	—	—	—	—
16. West Bengal		51	46 (90.20)	5 (9.00)	2 (40.00)	2 (40.00)	1 (20.00)
All States		704	684 (97.16)	20 (2.84)	6 (30.00)	10 (50.00)	5 (25.00)

(i) Figures in parenthesis in Col. 3 &amp; 4 are percentages to totals in Col. 2.

(ii) Figures in parenthesis in Cols. 5 to 7 are percentages to figures in Col. 4.

## Direction on watering

State	No. given direc- tions	No. followed direc- tions	No. not followed direc- tions	Reasons for not following directions					
				Not convin- ced	Lack of guidance	Non- availa- bility of manure fertiliser and insectici- des	Scarcity of water for irrigation	Indiffe- rent attitude	Any Other
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh . . . . .	16	16 (100.00)	—	—	—	—	—	—	—
2. Assam . . . . .	2	2 (100.00)	—	—	—	—	—	—	—
3. Bihar . . . . .	66	61 (92.42)	5 (7.58)	—	—	—	5 (100.00)	—	—
4. Gujarat . . . . .	57	55 (96.49)	2 (3.51)	—	—	—	1 (50.00)	—	1 (50.00)
5. Haryana . . . . .	40	40 (100.00)	—	—	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	21 (63.64)	12 (36.36)	—	—	—	12 (100.00)	—	—
7. Jammu & Kashmir . . . . .	40	38 (95.00)	2 (5.00)	—	—	—	2 (100.00)	—	—
8. Karnataka . . . . .	62	53 (85.48)	9 (14.52)	—	—	—	9 (100.00)	—	1 (11.11)
9. Kerala . . . . .	1	— (100.00)	1 (100.00)	—	—	—	1 (100.00)	—	—
10. Madhya Pradesh . . . . .	75	62 (82.67)	13 (17.33)	—	—	—	11 (84.62)	—	2 (15.38)
11. Maharashtra . . . . .	44	40 (90.91)	4 (9.09)	—	4 (100.00)	—	4 (100.00)	—	1 (25.00)
12. Orissa . . . . .	38	9 (23.68)	29 (76.32)	—	—	—	23 (79.31)	9 (31.03)	3 (10.43)
13. Rajasthan . . . . .	70	60 (85.71)	10 (14.29)	—	2 (20.00)	—	9 (90.00)	—	5 (50.00)
14. Tamil Nadu . . . . .	34	26 (76.47)	8 (23.53)	—	—	—	6 (75.00)	1 (12.50)	1 (12.50)
15. Uttar Pradesh . . . . .	44	42 (95.45)	2 (4.55)	—	1 (50.00)	—	1 (50.00)	—	1 (50.00)
16. West Bengal . . . . .	50	20 (40.00)	30 (60.00)	1 (3.33)	2 (6.67)	—	28 (93.33)	—	1 (3.33)
All States . . . . .	672	445 (81.10)	127 (18.90)	1 (0.79)	9 (7.09)	—	112 (88.19)	10 (7.87)	16 (12.60)

(i) Figures in parenthesis in Col. 3 are percentages to figures in Col. 2.

(ii) Figures in parenthesis in Cols. 5 to 10 are percentages to figures in Col. 4.

Distribution of beneficiaries according to the type of soil where plantation undertaken soil suitability/unsuitability and the reasons for not informing the concerned agencies about unsuitability of soil

Sl. No.	State	No. of selected beneficiaries	Type of soil on which plantation undertaken					No. considering soil	
			Usual soil of the area	Sandy soil	Marshy/ water logged	Stony	Others	Suitable	Un-suitable
1	2	3	4	5	6	7	8	9	10
1.	Andhra Pradesh	42	36 (85.71)	2 (4.76)	—	—	4 (9.52)	38 (90.48)	4 (9.52)
2.	Assam	35	35 (100.00)	—	—	—	—	35 (100.00)	—
3.	Bihar	71	53 (74.65)	—	—	7 (9.86)	11 (15.49)	71 (100.00)	—
4.	Gujarat	58	38 (65.52)	6 (10.34)	2 (3.45)	2 (3.45)	10 (17.24)	36 (62.07)	22 (37.93)
5.	Haryana	40	31 (77.50)	—	—	—	9 (22.50)	35 (87.50)	5 (12.50)
6.	Himachal Pradesh	33	—	3 (9.09)	—	38 (90.91)	—	33 (100.00)	—
7.	Jammu & Kashmir	40	39 (97.50)	—	—	1 (2.50)	—	39 (97.50)	1 (2.50)
8.	Karnataka	75	57 (76.00)	4 (5.33)	—	8 (10.67)	6 (8.00)	68 (90.67)	7 (9.33)
9.	Kerala	35	35 (100.00)	—	—	—	—	35 (100.00)	—
10.	Madhya Pradesh	105	86 (81.90)	6 (5.71)	—	10 (9.52)	3 (2.86)	105 (100.00)	—
11.	Maharashtra	61	38 (62.29)	—	1 (1.64)	14 (22.95)	8 (13.11)	59 (96.72)	2 (3.28)
12.	Orissa	75	48 (64.00)	9 (12.00)	—	3 (4.00)	15 (20.00)	72 (96.00)	3 (4.00)
13.	Rajasthan	71	20 (28.17)	25 (35.21)	—	21 (29.58)	5 (7.04)	65 (91.55)	6 (8.45)
14.	Tamil Nadu	45	43 (95.55)	—	—	—	2 (4.44)	42 (93.33)	3 (6.67)
15.	Uttar Pradesh	63	55 (87.30)	8 (12.70)	—	—	—	62 (98.41)	1 (1.59)
16.	West Bengal	58	29 (50.00)	7 (12.07)	—	10 (17.24)	12 (20.69)	50 (86.21)	8 (13.79)
All States		907	643 (70.89)	70 (7.72)	3 (0.33)	106 (11.69)	85 (9.37)	845 (93.76)	62 (6.84)

Figures in parenthesis in Cols. 4 to 10 are percentages to total in Col. 3.

Figures in Parenthesis in Cols. 11 to 16 are percentages to total in Col. 10.

Sl. No.	State	Of these considering soil unsuitable no. not reporting to any agency	Of these not reporting about unsuitability of soil, reasons thereof				
			Did not find any opportunity to meet the officials	Lack of initiative	Lack of time	Indifferent attitude of officials	Any Other
1	2	11	12	13	14	15	16
1. Andhra Pradesh	.	4 (100.00)		4 (100.00)	—	—	1 (25.00)
2. Assam	.	—		—	—	—	—
3. Bihar	.	—		—	—	—	—
4. Gujarat	.	10 (45.45)		4 (18.18)	1 (4.54)	—	6 (27.27)
5. Haryana	.	5 (100.00)		2 (40.00)	4 (80.00)	—	—
6. Himachal Pradesh	.	—	—	—	—	—	—
7. Jammu & Kashmir	.	1 (100.00)		1 (100.00)	—	—	—
8. Karnataka	.	7 (100.00)	4 (57.14)	3 (42.86)	—	1 (14.29)	—
9. Kerala	.	—	—	—	—	—	—
10. Madhya Pradesh	.	—	—	—	—	—	—
11. Maharashtra	.	2 (100.00)	—	—	2 (100.00)	2 (100.00)	—
12. Orissa	.	3 (100.00)	—	3 (100.00)	—	—	—
13. Rajasthan	.	2 (33.33)	—	—	2 (33.33)	—	2 (33.33)
14. Tamil Nadu	.	3 (100.00)	1 (33.33)	3 (100.00)	2 (66.67)	—	—
15. Uttar Pradesh	.	1 (100.00)	—	—	1 (100.00)	—	—
16. West Bengal	.	2 (25.00)	1 (12.50)	2 (12.50)	—	—	—
All States	.	40 (64.52)	6 (9.67)	21 (33.87)	12 (19.35)	3 (4.84)	8 (12.90)

Figures in parenthesis in Cols. 4 to 10 are percentages to total in Col. 3.

Figures in parenthesis in Cols. 11 to 16 are percentages to total in Col. 10.

## Distribution of Beneficiaries according to sources of input supplies

Sl. No.	States	No. of beneficiaries reporting supplies from any sources	No. reporting input supply from			
			Market	Forest Department	Block agency	Own supply
1	2	3	4	5	6	7
1. Andhra Pradesh	.	36	18 (50.00)	1 (2.78)	—	17 (47.22)
2. Assam	.	—	—	—	—	—
3. Bihar	.	46	18 (39.13)	—	—	28 (60.87)
4. Gujarat	.	31	27 (87.10)	—	—	4 (12.90)
5. Haryana	.	40	40 (100.00)	—	—	—
6. Himachal Pradesh	.	27	6 (22.22)	—	3 (11.11)	18 (66.67)
7. Jammu & Kashmir	.	30	26 (86.67)	—	—	4 (13.33)
8. Karnataka	.	64	23 (35.94)	—	—	41 (64.06)
9. Kerala	.	13	—	—	—	13 (100.00)
10. Madhya Pradesh	.	70	46 (65.71)	—	—	24 (34.29)
11. Maharashtra	.	7	1 (14.29)	—	—	6 (85.71)
12. Orissa	.	75	—	1 (1.33)	—	74 (98.67)
13. Rajasthan	.	46	44 (95.65)	2 (4.35)	—	—
14. Tamil Nadu	.	10	10 (100.00)	—	—	—
15. Uttar Pradesh	.	39	18 (46.15)	—	—	21 (53.85)

Annex. 5,26 (Contd.)

1	2	3	4	5	6	7
16. West Bengal . . . . .		52	8 (15·38)	34 (65·38)	—	10 (19·23)
All States . . . . .		586	285 (48·68)	38 (6·48)	3 (0·51)	260 (44·37)

Figures in parenthesis are Percentages to figures in Col. 3.



## Number reporting seedlings supplied at

Sl. No.	States	No. of selected beneficiaries	No. reported supply at door steps in the village	No. collected seedlings from nurseries by distance			
				Below 1 kms	1-3 kms.	3-5 kms.	Beyond 5 kms
1	2	3	4	5	6	7	8
1. Andhra Pradesh		42	11 (26.19)	—	18 (42.86)	3 (7.14)	10 (23.81)
2. Assam		35	—	—	24 (68.57)	3 (8.51)	8 (22.86)
3. Bihar		71	10 (14.18)	1 (1.41)	12 (16.90)	5 (7.04)	43 (60.56)
4. Gujarat		58	17 (29.31)	4 (6.90)	16 (27.50)	—	21 (36.21)
5. Haryana		40	6 (15.00)	—	24 (60.00)	—	10 (25.00)
6. Himachal Pradesh		33	—	—	24 (72.73)	4 (12.12)	5 (15.15)
7. Jammu & Kashmir		40	1 (2.50)	—	5 (12.50)	—	34 (85.00)
8. Karnataka		75	—	—	23 (30.67)	11 (14.67)	41 (54.67)
9. Kerala		34	1 (2.94)	—	21 (61.76)	6 (17.65)	6 (17.65)
10. Madhya Pradesh		105	2 (1.90)	—	23 (21.90)	24 (22.86)	56 (53.33)
11. Maharashtra		61	38 (62.30)	3 (4.92)	8 (13.11)	1 (1.64)	11 (18.03)
12. Orissa		76	—	3 (3.95)	20 (26.32)	29 (38.16)	24 (31.58)
13. Rajasthan		71	17 (23.94)	—	9 (12.68)	9 (12.68)	36 (50.70)
14. Tamil Nadu		45	3 (6.67)	—	23 (51.11)	3 (6.67)	16 (35.56)
15. Uttar Pradesh		63	5 (7.94)	3 (4.76)	12 (19.05)	18 (28.57)	25 (39.68)
16. West Bengal		58	—	—	15 (25.86)	9 (15.52)	34 (58.62)
All States		907	111 (12.24)	14 (1.54)	277 (30.54)	125 (13.78)	380 (41.90)

Figures in brackets in Colms. 4 to 10 are percentages to totals in Col. 3.

Figures in brackets in colms 11 to 14 are percentages to totals in Col. 10.

doorstep/distance travelled for procuring seedlings.

Sl. No.	State	Total	No. reported transport difficulties	No. suggested measures to overcome transport difficulties			
				seedlings should be supplied at plantation sites	More nurseries should be developed in the area	Supply points may be started to curtail long walking distance	Others
1	2	9	10	11	12	13	14
1.	Andhra Pradesh	31 (73.87)	19 (45.24)	16 (84.20)	1 (5.26)	1 (5.26)	5 (26.31)
2.	Assam	35 (100.00)	11 (2.86)	—	1 (100.00)	—	—
3.	Bihar	61 (85.92)	36 (50.70)	28 (77.78)	10 (27.78)	21 (58.33)	2 (5.55)
4.	Gujarat	41 (70.69)	12 (20.69)	2 (16.16)	4 (33.33)	7 (58.33)	6 (50.00)
5.	Haryana	34 (85.00)	—	—	—	—	—
6.	Himachal Pradesh	33 (100.00)	20 (60.61)	18 (90.00)	4 (25.00)	4 (25.00)	4 (25.00)
7.	Jammu & Kashmir	39 (97.50)	30 (75.00)	30 (100.00)	5 (16.16)	2 (6.66)	6 (20.00)
8.	Karnataka	75 (100.00)	27 (36.00)	26 (96.30)	8 (29.63)	7 (25.92)	5 (18.51)
9.	Kerala	33 (97.06)	8 (23.53)	1 (72.50)	5 (62.50)	7 (87.50)	4 (50.00)
10.	Madhya Pradesh	103 (98.10)	39 (37.14)	31 (79.45)	13 (33.33)	8 (20.57)	—
11.	Maharashtra	23 (37.70)	4 (6.56)	4 (100.00)	—	4 (100.00)	—
12.	Orissa	76 (100.00)	33 (43.42)	1 (3.03)	12 (36.36)	8 (24.24)	16 (48.48)
13.	Rajasthan	54 (76.06)	42 (59.15)	37 (98.09)	22 (52.38)	8 (19.04)	3 (7.14)
14.	Tamil Nadu	42 (93.33)	14 (31.11)	12 (85.71)	4 (28.57)	—	5 (35.71)
15.	Uttar Pradesh	58 (92.06)	15 (23.81)	3 (20.00)	5 (33.33)	9 (60.00)	2 (13.33)
16.	West Bengal	58 (100.00)	22 (37.93)	13 (13.64)	12 (54.54)	—	12 (54.54)
All States		796 (87.76)	322 (35.50)	212 (65.83)	106 (32.92)	86 (26.71)	70 (21.74)

Figures in brackets in Colms. 4 to 10 are percentages to totals in Col. 3.

Figures in brackets in Colms. 11 to 14 are percentages to totals in Col. 10.



Sl. No.	State	No. of selected beneficiaries	Months of plantation reported by selected beneficiaries					
			Feb.	March	May	June	July	August
1		2	3	4	5	6	7	8
1. Andhra Pradesh		42	—	—	—	1 (2.4)	29 (69.1)	4 (9.5)
2. Assam		35	—	—	4 (11.4)	19 (54.3)	12 (34.3)	—
3. Bihar		71	—	—	—	—	30 (42.3)	38 (53.5)
4. Gujarat		58	—	—	2 (3.5)	7 (12.1)	20 (34.5)	28 (48.3)
5. Haryana		40	5 (12.5)	—	—	—	5 (12.5)	24 (60.0)
6. Himachal Pradesh		33	—	—	—	—	—	32 (97.0)
7. Jammu & Kashmir		40	—	40 (100.00)	—	—	—	—
8. Karnataka		75	—	—	—	1 (1.3)	37 (49.3)	16 (21.3)
9. Kerala		34	—	—	—	19 (55.9)	15 (44.1)	—
10. Madhya Pradesh		105	—	—	—	—	83 (79.1)	17 (16.2)
11. Maharashtra		61	—	—	—	36 (59.0)	20 (32.8)	—
12. Orissa		76	—	—	—	—	41 (54.0)	35 (46.0)
13. Rajasthan		71	—	—	—	29 (40.9)	38 (53.5)	4 (5.6)
14. Tamil Nadu		45	1 (2.2)	—	—	1 (2.2)	4 (8.9)	11 (24.4)
15. Uttar Pradesh		63	—	—	—	—	45 (71.4)	16 (25.4)
16. West Bengal		58	—	—	—	8 (13.8)	38 (65.5)	12 (20.7)
All States		907	6 (0.7)	40 (4.4)	6 (0.7)	121 (13.3)	417 (46.0)	237 (26.1)

Figures in brackets are percentages to total in Col. 2.

## Plantations

State	Months of plantation reported by selected beneficiaries			
	Sept.	Oct.	Nov.	December
1	9	10	11	12
1. Andhra Pradesh . . . . .	2 (4·8)	1 (2·4)	5 (11·9)	—
2. Assam . . . . .	—	—	—	—
3. Bihar . . . . .	2 (2·8)	1 (1·4)	—	—
4. Gujarat . . . . .	1 (1·7)	—	—	—
5. Haryana . . . . .	6 (15·0)	—	—	—
6. Himachal Pradesh . . . . .	1 (3·0)	—	—	—
7. Jammu & Kashmir . . . . .	—	—	—	—
8. Karnataka . . . . .	8 (10·7)	12 (16·0)	1 (1·3)	—
9. Kerala . . . . .	—	—	—	—
10. Madhya Pradesh . . . . .	5 (4·7)	—	—	—
11. Maharashtra . . . . .	5 (8·2)	—	—	—
12. Orissa . . . . .	—	—	—	—
13. Rajasthan . . . . .	—	—	—	—
14. Tamil Nadu . . . . .	—	6 (13·3)	20 (44·4)	2 (4·4)
15. Uttar Pradesh . . . . .	1 (1·6)	1 (1·6)	—	—
16. West Bengal . . . . .	—	—	—	—
All States . . . . .	31 (3·41)	21 (2·3)	26 (2·9)	2 (0·2)

Figures in brackets are percentages to total in Col. 2.

## Species grown and preference

State	Number of selected beneficiaries	Number reporting preference	Species grown and preferred number reporting			
			Casuarina (Saru)	equisitifolium	Delbergia Sissoo	
			Grown	Preferred	Grown	Preferred
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	42	7	—	3 (42·8)	—	—
2. Assam . . . . .	35	31	—	—	1 (2·8)	1 (3·2)
3. Bihar . . . . .	71	23	—	—	25 (35·2)	3 (13·0)
4. Gujarat . . . . .	58	27	3 (5·2)	2 (7·4)	—	1 (3·7)
5. Haryana . . . . .	40	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	8	—	—	2 (6·1)	2 (25·0)
7. Jammu & Kashmir . . . . .	40	33	—	—	—	—
8. Karnataka . . . . .	75	21	13 (17·3)	11 (32·4)	—	—
9. Kerala . . . . .	34	18	13 (38·2)	3 (16·7)	—	—
10. Madhya Pradesh . . . . .	105	57	1 (0·9)	—	9 (8·6)	1 (1·8)
11. Maharashtra . . . . .	61	13	17 (27·9)	1 (7·7)	28 (45·9)	—
12. Orissa . . . . .	76	24	31 (40·8)	—	5 (6·6)	2 (8·3)
13. Rajasthan . . . . .	71	24	—	—	6 (8·4)	4 (16·7)
14. Tamil Nadu . . . . .	45	17	—	—	—	3 (17·6)
15. Uttar Pradesh . . . . .	63	18	—	1 (5·6)	13 (20·6)	6 (33·3)
16. West Bengal . . . . .	58	14	4 (6·9)	—	17 (29·3)	—
All States . . . . .	907	335 (36·9)	82 (9·0)	21 (6·3)	106 (11·7)	23 (6·9)

Note : (1) Figures in brackets under Cols 4, 6, 8, 10, 12 & 14 are percentages to figures in Col. 2.

(2) Figures in brackets under Cols 5, 7, 9, 11, 13 & 15 are percentages to figures in Cols. 3.

for growing other species.

State	Species grown and preferred number reporting							
	Eucalyptus		Leucaenea Leucocephala (Subabool)		Fruits		Other species	
	Grown	Preferred	Grown	Preferred	Grown	Preferred	Grown	Preferred
1	8	9	10	11	12	13	14	15
1. Andhra Pradesh .	41 (97.6)	—	1 (2.4)	—	—	5 (71.4)	1 (2.4)	—
2. Assam . . . .	13 (37.1)	15 (48.4)	—	—	1 (2.8)	3 (9.7)	35 (100.0)	13 (41.9)
3. Bihar . . . .	6 (8.5)	—	—	—	60 (84.5)	17 (73.9)	25 (35.2)	10 (43.5)
4. Gujarat . . . .	54 (93.1)	4 (14.8)	3 (5.2)	4 (14.8)	10 (17.2)	2 (7.4)	1 (1.7)	12 (44.4)
5. Haryana . . . .	40 (100.0)	—	—	—	—	—	—	—
6. Himachal Pradesh .	32 (97.0)	1 (12.5)	6 (18.2)	3 (37.5)	—	—	14 (42.4)	7 (87.5)
7. Jammu & Kashmir .	40 (100.0)	—	—	—	—	—	—	33 (100.00)
8. Karnataka . . . .	64 (85.3)	7 (33.3)	11 (14.7)	9 (42.8)	—	2 (9.5)	8 (10.7)	3 (14.3)
9. Kerala . . . .	15 (44.0)	—	1 (2.9)	—	1 (2.9)	4 (22.2)	13 (38.2)	11 (61.1)
10. Madhya Pradesh .	39 (37.1)	1 (1.8)	8 (7.6)	4 (7.0)	49 (46.7)	52 (91.2)	77 (73.3)	—
11. Maharashtra . . .	20 (32.8)	—	31 (50.8)	—	20 (32.8)	4 (30.8)	44 (72.1)	9 (69.2)
12. Orissa . . . .	8 (10.5)	—	—	—	17 (22.4)	10 (41.7)	67 (88.2)	19 (79.2)
13. Rajasthan . . . .	51 (71.8)	4 (16.7)	24 (33.8)	2 (8.3)	22 (31.0)	11 (45.8)	32 (45.1)	6 (25.0)
14. Tamil Nadu . . .	42 (93.3)	2 (11.8)	—	1 (5.9)	11 (24.4)	12 (70.6)	5 (11.1)	8 (47.1)
15. Uttar Pradesh . .	50 (79.4)	—	6 (9.5)	2 (11.1)	4 (6.3)	9 (50.0)	12 (19.1)	7 (38.8)
16. West Bengal . . .	55 (94.8)	3 (21.4)	5 (8.6)	3 (21.4)	13 (22.4)	—	52 (89.7)	12 (85.7)
All States . . . .	570 (62.8)	37 (11.0)	96 (10.6)	28 (8.4)	208 (22.9)	131 (39.1)	386 (42.6)	150 (44.8)

Note :— (1) Figures in brackets under Cols. 4, 6, 8, 10, 12 &amp; 14 are percentages to figures in Col. 2.

(2) Figures in brackets under Cols. 5, 7, 9, 11, 13 &amp; 15 are percentages to figures in Cols. 3.

## Reasons for preference for particular species

State	Number reporting preference	Reasons for preferring particular species						
		Code No. 1	Code No. 2	Code No. 3	Code No. 4	Code No. 5	Code No. 6	Code No. 7
		Number reporting						
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh .	7	1 (14.3)	—	2 (28.6)	5 (71.4)	3 (42.9)	—	1 (14.3)
2. Assam . . . . .	31	6 (19.4)	—	8 (25.8)	2 (6.5)	8 (25.8)	—	10 (32.3)
3. Bihar . . . . .	23	9 (39.1)	1 (4.4)	3 (13.0)	6 (26.1)	19 (82.6)	—	13 (56.5)
4. Gujarat . . . . .	27	13 (48.2)	2 (7.4)	3 (11.1)	3 (11.1)	26 (96.3)	1 (3.7)	5 (18.5)
5. Haryana . . . . .	—	—	—	—	—	—	—	—
6. Himachal Pradesh .	8	2 (25.0)	7 (87.5)	1 (12.5)	2 (25.0)	2 (25.0)	—	5 (62.5)
7. Jammu & Kashmir .	33	4 (12.1)	—	2 (6.1)	—	22 (66.7)	1 (3.0)	18 (54.6)
8. Karnataka . . . . .	21	17 (81.0)	9 (42.9)	9 (42.9)	7 (33.3)	13 (61.9)	2 (9.5)	4 (19.1)
9. Kerala . . . . .	18	12 (66.7)	—	—	—	9 (50.0)	1 (5.6)	7 (38.8)
10. Madhya Pradesh .	57	24 (42.1)	3 (5.3)	2 (3.5)	3 (5.3)	46 (80.7)	—	15 (26.3)
11. Maharashtra . . .	13	—	—	1 (7.7)	2 (15.4)	12 (92.3)	3 (23.1)	6 (46.2)
12. Orissa . . . . .	24	18 (75.0)	—	6 (25.0)	18 (75.0)	10 (41.7)	—	8 (33.3)
13. Rajasthan . . . . .	24	12 (50.0)	2 (8.3)	8 (33.3)	12 (50.0)	17 (70.8)	1 (4.2)	11 (45.8)
14. Tamil Nadu . . . .	17	8 (47.1)	3 (17.7)	—	6 (35.3)	9 (52.9)	1 (5.9)	11 (64.7)
15. Uttar Pradesh . .	18	7 (38.9)	3 (16.7)	7 (38.9)	8 (44.4)	7 (38.9)	2 (11.1)	8 (44.4)
16. West Bengal . . .	14	14 (100.00)	3 (21.4)	5 (35.7)	—	10 (71.4)	1 (7.1)	6 (42.9)
All States . . . . .	335	147 (43.2)	33 (9.9)	57 (17.0)	74 (22.1)	213 (63.6)	13 (3.9)	128 (38.2)

Figures in brackets are percentages to total in Col. 2.

## Reasons for preference :

- Code 1—Suitable to the soil of his farm.  
 Code 2—Suitable to his need of fodder.  
 Code 3—Suitable to his need of fuel  
 Code 4—Suitable to his need of small timber.  
 Code 5—Commercially suitable.  
 Code 6—Checks of Soil erosion.  
 Code 7—Others.

and reasons for not growing.

State	Reasons for not growing species preferred for number reporting				
	Code No. 1	Code No. 2	Code No. 3	Code No. 4	Code No. 5
1.	10	11	12	13	14
1. Andhra Pradesh . . . . .	8 (114.3)	—	—	—	—
2. Assam . . . . .	30 (96.8)	—	—	—	1 (3.2)
3. Bihar . . . . .	14 (60.9)	5 (21.7)	12 (52.2)	1 (4.4)	5 (21.7)
4. Gujarat . . . . .	21 (77.8)	—	2 (7.4)	—	6 (22.2)
5. Haryana . . . . .	—	—	—	—	—
6. Himachal Pradesh . . . . .	7 (87.5)	—	—	—	1 (12.5)
7. Jammu & Kashmir . . . . .	33 (100.00)	3 (9.1)	—	—	—
8. Karnataka . . . . .	19 (90.5)	—	2 (9.5)	—	—
9. Kerala . . . . .	15 (83.3)	—	—	—	6 (33.3)
10. Madhya Pradesh . . . . .	56 (98.3)	2 (3.5)	1 (1.75)	5 (8.8)	—
11. Maharashtra . . . . .	6 (46.2)	2 (15.4)	—	2 (15.4)	5 (38.5)
12. Orissa . . . . .	22 (91.7)	—	2 (8.3)	—	5 (20.8)
13. Rajasthan . . . . .	19 (79.2)	4 (16.7)	1 (4.2)	1 (4.2)	5 (20.8)
14. Tamil Nadu . . . . .	14 (82.4)	6 (35.3)	1 (5.9)	—	3 (17.7)
15. Uttar Pradesh . . . . .	13 (72.2)	—	—	—	6 (33.3)
16. West Bengal . . . . .	11 (78.6)	3 (21.4)	3 (21.4)	3 (21.4)	3 (21.4)
All States . . . . .	288 (86.0)	25 (7.5)	24 (7.2)	12 (3.6)	46 (13.7)

**Reasons for not growing :**

Code 1—Species not available in Govt. nurseries.

Code 2—Cannot afford/too costly.

Code 3—Cannot protect from animals.

Code 4—Needs P. P. Measures which are costly.

Code 5—Any other.

Figures in brackets are percentages to total in Col. 2.

## Plants received and planted

(1981-82)

State	No. of selected beneficiaries	No. reported plantation in the year	No. reported seedlings received as percentage of requirement			
			Up to 25%	26 to 50%	51 to 75%	76 to 100%
I	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	42	—	—	—	—	—
2. Assam . . . . .	35	35 (100.00)	—	1 (2.86)	—	34 (97.14)
3. Bihar . . . . .	71	—	—	—	—	—
4. Gujarat . . . . .	58	58 (100.00)	3 (5.17)	9 (15.52)	9 (15.52)	37 (63.79)
5. Haryana . . . . .	40	40 (100.00)	—	3 (7.5)	—	37 (92.50)
6. Himachal Pradesh . . . . .	33	33 (100.00)	—	—	—	33 (100.00)
7. Jammu & Kashmir . . . . .	40	—	—	—	—	—
8. Karnataka . . . . .	75	39 (52.00)	—	4 (10.26)	4 (10.26)	31 (79.49)
9. Kerala . . . . .	34	—	—	—	—	—
10. Madhya Pradesh . . . . .	105	—	—	—	—	—
11. Maharashtra . . . . .	61	—	—	—	—	—
12. Orissa . . . . .	76	37 (48.68)	—	1 (2.70)	—	36 (97.30)
13. Rajasthan . . . . .	71	1 (1.41)	—	—	—	1 (100.00)
14. Tamil Nadu . . . . .	45	45 (100.00)	—	12 (26.67)	1 (2.22)	32 (71.11)
15. Uttar Pradesh . . . . .	63	12 (19.05)	—	—	—	12 (100.00)
16. West Bengal . . . . .	58	58 (100.00)	—	—	3 (5.17)	55 (94.83)
All States . . . . .	907	358 (39.47)	3 (0.84)	30 (8.40)	17 (4.75)	308 (86.03)

(1) Figures in brackets in Col. 3 are percentage to total in Col. 2.

(2) Figures in brackets in Cols. 4 to 11 are percentages to total in Col. 3.

State	No. reported seedlings planted as percentages of seedlings received.			
	Upto 25 %	26 to 50 %	51 to 75 %	76 to 100 %
1	8	9	10	11
1. Andhra Pradesh . . . . .	—	—	—	—
2. Assam . . . . .	—	—	—	35 (100.00)
3. Bihar . . . . .	—	—	—	—
4. Gujarat . . . . .	—	—	—	58 (100.00)
5. Haryana . . . . .	1 (2.50)	—	—	39 (97.50)
6. Himachal Pradesh . . . . .	—	—	—	33 (100.00)
7. Jammu & Kashmir . . . . .	—	—	—	—
8. Karnataa . . . . .	—	5 (12.82)	2 (5.13)	32 (82.05)
9. Kerala . . . . .	—	—	—	—
10. Madhya Pradesh . . . . .	—	—	—	—
11. Maharashtra . . . . .	—	—	—	—
12. Orissa . . . . .	—	—	—	37 (100.00)
13. Rajasthan . . . . .	—	—	—	1 (100.00)
14. Tamil Nadu . . . . .	—	2 (4.44)	—	43 (95.56)
15. Uttar Pradesh . . . . .	—	—	—	12 (100.00)
16. West Bengal . . . . .	—	—	—	58 (100.00)
All-States . . . . .	1 (0.28)	7 (1.96)	2 (0.56)	348 (97.20)

- (1) Figures in brackets in col. 3 are percentages to total in Col. 2.  
 (2) Figures in brackets in Cols. 4 to 11 are percentages to total in Col. 3.



(1982-83)

## Plants received and planted.

Stated	No. of selected beneficiaries	No. reported plantation in year	No. reporting plants received as percentage of requirement			
			Upto 25 %	26 to 50 %	51 to 75 %	76 to 100 %
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	42	42 (100.00)	2 (4.76)	2 (4.76)	1 (2.38)	37 (88.10)
2. Assam . . . . .	35	1 (2.86)	—	—	—	1 (100.00)
3. Bihar . . . . .	71	71 (100.00)	3 (4.23)	9 (12.68)	1 (1.41)	58 (81.69)
4. Gujarat . . . . .	58	9 (15.52)	1 (11.11)	2 (22.22)	—	6 (66.67)
5. Haryana . . . . .	40	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	18 (54.55)	1 (5.56)	—	—	17 (94.44)
7. Jammu & Kashmir . . . . .	40	40 (100.00)	3 (7.50)	13 (32.50)	8 (20.00)	16 (40.00)
8. Karnataka . . . . .	75	39 (52.00)	—	—	—	39 (100.00)
9. Kerala . . . . .	34	34 (100.00)	1 (2.94)	2 (5.88)	1 (2.94)	30 (88.24)
10. Madhya Pradesh . . . . .	105	105 (100.00)	—	1 (0.95)	5 (4.76)	99 (94.29)
11. Maharashtra . . . . .	61	61 (100.00)	—	—	—	61 (100.00)
12. Orissa . . . . .	76	39 (51.32)	4 (10.26)	26 (66.67)	5 (12.82)	4 (10.26)
13. Rajasthan . . . . .	71	71 (100.00)	3 (4.23)	10 (14.08)	14 (19.72)	44 (61.97)
14. Tamil Nadu . . . . .	45	2 (4.44)	—	—	—	2 (100.00)
15. Uttar Pradesh . . . . .	63	63 (100.00)	—	5 (7.94)	—	58 (92.06)
16. West Bengal . . . . .	58	17 (29.31)	—	2 (11.76)	—	15 (88.24)
All-States . . . . .	907	612 (67.49)	18 (2.94)	72 (11.76)	35 (5.72)	487 (79.58)

(1) Figures in brackets Col. 3 are percentages to figures in Col. 2.

(2) Figures in brackets in Cols. 4 to 11 are percentages to figures in Col. 3.

State	No. reported seedlings planted as percentage of plants received			
	Upto 25 %	26 to 50 %	51 to 75 %	76 to 100 %
1	8	9	10	11
1. Andhra Pradesh . . . . .	—	—	—	42 (100·00)
2. Assam . . . . .	—	—	—	1 (100·00)
3. Bihar . . . . .	—	1 (1·41)	—	70 (98·59)
4. Gujarat . . . . .	—	—	—	9 (100·00)
5. Haryana . . . . .	—	—	—	—
6. Himachal Pradesh . . . . .	—	—	—	18 (100·00)
7. Jammu & Kashmir . . . . .	—	—	—	40 (100·00)
8. Karnataka . . . . .	—	—	—	39 (100·00)
9. Kerala . . . . .	—	—	—	34 (100·00)
10. Madhya Pradesh . . . . .	—	—	—	105 (100·00)
11. Maharashtra . . . . .	—	—	—	61 (100·00)
12. Orissa . . . . .	—	—	—	39 (100·00)
13. Rajasthan . . . . .	—	—	—	71 (100·00)
14. Tamil Nadu . . . . .	—	—	—	2 (100·00)
15. Uttar Pradesh . . . . .	—	—	—	63 (100·00)
16. West Bengal . . . . .	—	—	—	17 (100·00)
All-States . . . . .	—	1 (0·16)	—	611 (99·84)

(1) Figures in bracket in Col. 3 are percentages to Col. 2.

(2) Figures in brackets in Cols. 4 to 11 are percentages to figures in Col. 3.

Plants received and planted.

State	No. of selected beneficiaries	No. reported plantation in the year	No. reported plants received as percentage of requirements			
			Upto 25 %	26 to 50 %	51 to 75 %	%
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	42	4 (9.52)	—	—	—	4 (100.00)
2. Assam . . . . .	35	1 (2.86)	—	—	—	1 (100.00)
3. Bihar . . . . .	71	1 (1.41)	—	—	—	1 (100.00)
4. Gujarat . . . . .	58	12 (20.69)	—	—	—	12 (100.00)
5. Haryana . . . . .	40	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	13 (39.39)	—	—	—	13 (100.00)
7. Jammu & Kashmir . . . . .	40	4 (10.00)	—	2 (50.00)	—	2 (50.00)
8. Karnataka . . . . .	75	11 (14.67)	—	2 (18.18)	—	9 (81.28)
9. Kerala . . . . .	34	1 (2.94)	—	—	—	1 (100.00)
10. Madhya Pradesh . . . . .	105	16 (12.24)	—	—	1 (6.25)	15 (93.75)
11. Maharashtra . . . . .	61	1 (1.32)	—	—	—	1 (100.00)
12. Orissa . . . . .	76	1 (1.32)	—	1 (100.00)	—	—
13. Rajasthan . . . . .	71	7 (9.86)	2 (28.57)	1 (14.29)	1 (14.29)	3 (42.86)
14. Tamil Nadu . . . . .	45	3 (6.67)	—	—	—	3 (100.00)
15. Uttar Pradesh . . . . .	63	11 (17.46)	—	—	—	11 (100.00)
16. West Bengal . . . . .	58	10 (17.24)	—	—	1 (10.00)	9 (90.00)
All States . . . . .	907	96 (10.58)	2 (2.08)	6 (6.25)	3 (3.13)	85 (88.54)

(1) Figures in brackets under Col. 3 are percentages to total in Col. 2.

(2) Figures in brackets under Cols. 4 to 11 are percentages to total in Col. 3.

State	No. reported seedlings planted as percentage of plants received			
	Upto 25%	26 to 50%	51 to 75%	76 to 100%
1	8	9	10	11
1. Andhra Pradesh	—	—	—	4 (100.00)
2. Assam	—	—	—	1 (100.00)
3. Bihar	—	—	—	1 (100.00)
4. Gujarat	—	—	—	12 (100.00)
5. Haryana	—	—	—	—
6. Himachal Pradesh	—	—	—	13 (100.00)
7. Jammu & Kashmir	—	—	—	4 (100.00)
8. Karnataka	—	—	—	11 (100.00)
9. Kerala	—	—	—	1 (100.00)
10. Madhya Pradesh	—	—	—	16 (100.00)
11. Maharashtra	—	—	—	1 (100.00)
12. Orissa	—	—	—	1 (100.00)
13. Rajasthan	—	—	—	7 (100.00)
14. Tamil Nadu	—	—	—	3 (100.00)
15. Uttar Pradesh	—	—	—	11 (100.00)
16. West Bengal	—	—	—	10 (100.00)
All-States	—	—	—	96 (100.00)

(1) Figures in brackets under Col. 3 are percentages to total in Col. 2.

(2) Figures in brackets under Cols. 4 to 11 are percentages to total in Col. 3.

Survival of seedlings.

State	No. of selected beneficiaries	No. reported plantation in the year	No. reported percentage of seedlings survived at the end of			
			1981-82			
			0—25	26—50	51—75	76—100
1	2	3	4	5	6	7
1. Andhra Pradesh	42	—	—	—	—	—
2. Assam	35	35 (100·00)	—	1 (2·86)	3 (8·57)	31 (88·57)
3. Bihar	71	—	—	—	—	—
4. Gujarat	58	58 (100·00)	15 (25·86)	11 (18·97)	3 (5·17)	29 (50·00)
5. Haryana	40	40 (100·00)	2 (5·00)	3 (7·50)	6 (15·00)	29 (72·50)
6. Himachal Pradesh	33	33 (100·00)	11 (33·33)	7 (21·21)	7 (21·21)	8 (24·24)
7. Jammu & Kashmir	40	—	—	—	—	—
8. Karnataka	75	39 (52·00)	14 (25·90)	6 (16·38)	5 (12·82)	14 (35·90)
9. Kerala	34	—	—	—	—	—
10. Madhya Pradesh	105	—	—	—	—	—
11. Maharashtra	61	—	—	—	—	—
12. Orissa	76	37 (48·68)	10 (27·03)	13 (35·14)	8 (21·62)	6 (16·22)
13. Rajasthan	71	1 (1·41)	—	—	—	1 (100·00)
14. Tamil Nadu	45	45 (100·00)	9 (20·00)	10 (22·22)	9 (20·00)	17 (37·78)
15. Uttar Pradesh	63	12 (19·05)	3 (25·00)	1 (8·33)	—	8 (66·67)
16. West Bengal	58	58 (100·00)	4 (6·90)	8 (13·79)	13 (22·41)	33 (56·90)
All-States	907	358 (39·47)	68 (18·99)	60 (16·76)	54 (15·08)	176 (49·16)

(1) Figures in brackets under Cols. 3 indicate percentages to total in Col. 2.

(2) Figures in brackets under Cols. 4 to 6 indicate percentages to total in Col. 3.

State	No. reported percentage of seedlings survived at the end of							
	1982-83				1983-84			
	0-25	26-50	51-75	75-100	0-25	26-50	51-75	76-100
1	8	9	10	11	12	13	14	15
1. Andhra Pradesh	—	—	—	—	—	—	—	—
2. Assam	—	1 (2.86)	3 (8.57)	31 (88.57)	—	1 (2.86)	3 (8.57)	31 (88.57)
3. Bihar	—	—	—	—	—	—	—	—
4. Gujarat	15 (25.86)	11 (18.97)	3 (5.17)	29 (50.00)	15 (25.86)	11 (18.97)	3 (5.17)	29 (50.00)
5. Haryana	2 (5.00)	3 (7.50)	8 (20.00)	27 (67.50)	3 (7.50)	3 (7.50)	11 (27.50)	23 (57.50)
6. Himachal Pradesh	13 (39.39)	9 (27.27)	5 (15.15)	6 (18.18)	18 (54.55)	4 (12.12)	6 (18.18)	5 (15.15)
7. Jammu & Kashmir	—	—	—	—	—	—	—	—
8. Karnataka	14 (35.90)	6 (15.38)	5 (12.82)	14 (35.00)	16 (41.03)	6 (15.38)	5 (12.82)	12 (30.77)
9. Kerala	—	—	—	—	—	—	—	—
10. Madhya Pradesh	—	—	—	—	—	—	—	—
11. Maharashtra	—	—	—	—	—	—	—	—
12. Orissa	10 (27.03)	14 (37.84)	8 (21.62)	5 (13.51)	10 (27.03)	15 (40.57)	7 (18.92)	5 (13.51)
13. Rajasthan	—	—	—	1 (100.00)	—	—	—	1 (100.00)
14. Tamil-Nadu	11 (24.44)	12 (26.67)	10 (22.22)	12 (26.67)	18 (40.00)	10 (22.22)	8 (17.78)	9 (20.00)
15. Uttar Pradesh	3 (25.00)	1 (8.33)	1 (8.33)	7 (58.33)	3 (25.00)	1 (8.33)	1 (8.33)	7 (58.33)
16. West Bengal	11 (18.97)	11 (18.97)	11 (18.97)	25 (43.10)	11 (18.97)	11 (18.97)	10 (17.24)	26 (44.83)
All-States	79 (27.07)	68 (18.99)	54 (15.08)	157 (43.85)	94 (26.26)	62 (17.32)	54 (15.08)	148 (41.34)

(1) Figures in brackets under Col. 3 indicate percentages to total in Col. 2.

(2) Figures in brackets under Cols. 4 to 15 indicate percentages to total in Col. 3.

*Annex. 5-32 (b)*  
*Plantation year 1982-83*

**Survival of seedlings**

State	No. of selected beneficiaries	No. reported Plantation in the year	No. reported percentage of seedlings survived at the end of			
			1982-83			
			0—25	26—50	51—75	76—100
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	42	42 (100·00)	16 (38·10)	4 (9·52)	6 (14·29)	16 (38·10)
2. Assam . . . . .	35	1 (2·86)	—	—	—	1 (100·00)
3. Bihar . . . . .	71	71 (100·00)	23 (32·39)	20 (28·17)	8 (11·27)	20 (28·17)
4. Gujarat . . . . .	58	9 (15·52)	2 (22·22)	—	1 (11·11)	6 (66·67)
5. Haryana . . . . .	40	—	—	—	—	—
6. Himachal Pradesh . . . . .	33	18 (54·55)	4 (22·22)	5 (27·78)	5 (27·78)	4 (22·22)
7. Jammu & Kashmir . . . . .	40	40 (100·00)	2 (5·00)	—	1 (2·50)	37 (92·50)
8. Karnataka . . . . .	75	39 (52·50)	14 (35·90)	13 (33·33)	6 (15·38)	6 (15·38)
9. Kerala . . . . .	34	34 (100·00)	11 (32·35)	7 (20·59)	8 (23·53)	8 (23·53)
10. Madhya Pradesh . . . . .	105	105 (100·00)	29 (27·62)	18 (17·14)	24 (22·86)	34 (32·38)
11. Maharashtra . . . . .	61	61 (100·00)	21 (34·43)	4 (6·56)	11 (18·03)	25 (40·98)
12. Orissa . . . . .	76	39 (51·32)	23 (58·97)	9 (23·08)	2 (5·13)	5 (12·82)
13. Rajasthan . . . . .	71	71 (100·00)	8 (11·27)	10 (14·08)	13 (18·31)	40 (56·34)
14. Tamil Nadu . . . . .	45	2 (4·44)	—	—	—	2 (100·00)
15. Uttar Pradesh . . . . .	63	63 (100·00)	8 (12·70)	6 (9·52)	13 (20·63)	36 (57·14)
16. West Bengal . . . . .	58	17 (29·31)	1 (5·88)	—	—	16 (94·12)
All-States . . . . .	907	612 (76·48)	162 (26·47)	96 (15·69)	98 (16·01)	256 (41·83)

(1) Figures in brackets in Col. 3 indicate percentage to total in Col. 2.

(2) Figures in brackets in Cols. 4 to 11 indicate percentages to total in Col. 3.

State	No. reported percentages of seedlings survived at the end of			
	1983-84			
	0-25	26-50	51-75	76-100
1	8	9	10	11
1. Andhra Pradesh . . . . .	17 (40.48)	4 (9.52)	6 (14.29)	15 (35.71)
2. Assam . . . . .	—	—	—	1 (100.00)
3. Bihar . . . . .	25 (35.21)	20 (28.17)	7 (9.86)	19 (26.76)
4. Gujarat . . . . .	2 (22.22)	—	1 (11.11)	6 (66.67)
5. Haryana . . . . .	—	—	—	—
6. Himachal Pradesh . . . . .	6 (33.33)	6 (33.33)	5 (27.78)	1 (5.56)
7. Jammu & Kashmir . . . . .	7 (17.50)	4 (10.00)	13 (32.50)	16 (40.00)
8. Karnataka . . . . .	17 (43.59)	11 (28.21)	5 (12.82)	6 (15.38)
9. Kerala . . . . .	12 (35.29)	6 (17.65)	9 (26.47)	7 (20.59)
10. Madhya Pradesh . . . . .	36 (34.29)	22 (20.95)	22 (20.95)	25 (23.81)
11. Maharashtra . . . . .	21 (34.43)	4 (6.56)	11 (18.03)	25 (40.98)
12. Orissa . . . . .	24 (61.54)	9 (23.08)	1 (2.56)	5 (12.82)
13. Rajasthan . . . . .	15 (21.13)	10 (14.08)	19 (26.76)	27 (38.03)
14. Tamil Nadu . . . . .	—	—	—	2 (100.00)
15. Uttar Pradesh . . . . .	11 (17.46)	8 (12.70)	14 (22.22)	30 (47.62)
16. West Bengal . . . . .	1 (5.88)	—	—	16 (94.12)
All States . . . . .	194 (31.70)	104 (16.99)	113 (18.45)	201 (32.84)

(1) Figures in brackets in Col. 3 indicate percentages to total in Col. 2.

(2) Figures in brackets in Cols. 4 to 11 indicate percentages to total in Col. 3.



## Survival of seedlings

Plantation year 1983-84

State	No. of beneficia- ries selected	No. re- ported planta- tion in the year	No. reported percentage of seedlings survived at the end of			
			1983-84			
			0—25	26—50	51—75	76—100
1	2	3	4	5	6	7
1. Andhra Pradesh	42	4 (9.52)	1 (25.0)	—	—	3 (75.0)
2. Assam	35	1 (2.86)	—	—	—	1 (100.00)
3. Bihar	71	1 (1.41)	—	—	—	1 (100.0)
4. Gujarat	58	12 (20.69)	1 (8.3)	—	—	11 (91.7)
5. Haryana	40	—	—	—	—	—
6. Himachal Pradesh	33	13 (39.39)	—	7 (53.8)	4 (30.8)	2 (15.4)
7. Jammu & Kashmir	40	4 (10.0)	—	—	—	4 (100.0)
8. Karnataka	75	11 (14.67)	2 (18.2)	6 (54.5)	2 (18.2)	1 (9.1)
9. Kerala	34	1 (2.94)	—	—	1 (100.0)	—
10. Madhya Pradesh	105	16 (15.24)	—	5 (31.2)	4 (25.0)	7 (43.8)
11. Maharashtra	61	1 (1.61)	—	—	—	1 (100.0)
12. Orissa	76	1 (1.32)	1 (100.0)	—	—	—
13. Rajasthan	71	7 (9.86)	—	3 (42.8)	2 (28.6)	2 (28.6)
14. Tamil Nadu	45	3 (6.67)	—	—	—	3 (100.0)
15. Uttar Pradesh	63	11 (17.46)	—	—	4 (36.4)	7 (63.6)
16. West Bengal	58	10 (17.24)	4 (40.0)	—	2 (20.0)	4 (40.0)
All States	907	96 (10.58)	9 (9.38)	21 (21.88)	19 (19.79)	47 (48.96)

(1) Figures in brackets in Col. 3 indicate percentags to total in Col. 2.

(2) Figures in brackets in Cols. 4 to 7 are percentages to total in Col. 3.

## Reasons for plant mortality

State	Reasons for Plants mortality					Total
	Dried up due to lack of water	Browsed by animals	Destro- yed by children & others	Destro- yed due to insects/ pests attack	Any other	
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	11 (23.4)	14 (29.8)	2 (4.2)	9 (19.1)	11 (23.4)	47
2. Assam . . . . .	1 (6.7)	9 (60.0)	1 (6.7)	—	4 (26.7)	15
3. Bihar . . . . .	30 (28.8)	42 (40.4)	10 (9.6)	15 (14.4)	7 (6.7)	104
4. Gujarat . . . . .	17 (23.0)	3 (4.0)	—	39 (52.7)	15 (20.3)	74
5. Haryana . . . . .	4 (8.7)	18 (39.1)	11 (23.9)	6 (13.0)	7 (15.2)	46
6. Himachal Pradesh . . . . .	58 (41.1)	21 (14.9)	—	58 (41.8)	3 (2.1)	141
7. Jammu & Kashmir . . . . .	8 (22.9)	16 (45.7)	5 (14.3)	—	6 (17.1)	35
8. Karnataka . . . . .	36 (27.7)	42 (32.3)	1 (0.8)	31 (23.8)	20 (15.4)	130
9. Kerala . . . . .	24 (66.7)	5 (13.9)	1 (2.8)	1 (2.8)	5 (13.9)	36
10. Madhya Pradesh . . . . .	32 (32.0)	27 (27.0)	4 (4.0)	32 (32.0)	5 (5.0)	100
11. Maharashtra . . . . .	28 (28.6)	33 (33.7)	12 (12.2)	9 (9.2)	16 (16.3)	98
12. Orissa . . . . .	29 (33.3)	15 (17.2)	—	10 (11.5)	33 (37.9)	87
13. Rajasthan . . . . .	21 (25.9)	6 (7.4)	3 (3.7)	42 (51.8)	9 (11.1)	81
14. Tamil Nadu . . . . .	30 (38.5)	19 (24.4)	1 (1.3)	15 (19.2)	13 (16.7)	78
15. Uttar Pradesh . . . . .	20 (18.5)	41 (38.0)	8 (7.4)	28 (25.9)	11 (10.2)	108
16. West Bengal . . . . .	34 (25.2)	37 (27.4)	4 (3.0)	40 (29.6)	20 (14.8)	135
All States . . . . .	383 (29.1)	348 (26.5)	63 (4.8)	336 (25.6)	185 (14.0)	1315

Figures in brackets indicate percentages to total in Col. 7.

## Advice on after care measures

State	No. of beneficia- ries received advice	No. con- sidered advice useful	No. con- sidered advice not useful	No. followed advice	No. not followed advice	Reasons for not following advice N reporting			
						Not con- vinced	Lack of finance	Scarcity of water for irri- gation	Any other
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh . . . . .	14	14 (100.00)	—	11 (78.57)	3 (21.43)	—	1 (33.33)	—	3 (100.00)
2. Assam . . . . .	1	1 (100.00)	—	—	—	—	—	—	—
3. Bihar . . . . .	58	56 (96.55)	2 (3.45)	53 (94.83)	3 (5.17)	2 (66.67)	1 (33.33)	—	1 (33.33)
4. Gujarat . . . . .	30	30 (100.00)	—	21 (70.00)	9 (30.00)	4 (44.44)	1 (11.11)	2 (22.22)	2 (22.22)
5. Haryana . . . . .	40	40 (100.00)	—	39 (97.50)	1 (2.50)	—	1 (100.00)	—	—
6. Himachal Pradesh . . . . .	21	20 (95.24)	1 (4.76)	19 (90.48)	2 (9.52)	1 (50.00)	—	—	2 (100.00)
7. Jammu & Kashmir . . . . .	39	39 (100.00)	—	27 (69.23)	12 (30.77)	—	1 (8.33)	1 (8.33)	11 (91.66)
8. Karnataka . . . . .	61	58 (95.08)	3 (4.92)	42 (68.85)	19 (31.15)	1 (5.55)	14 (73.68)	5 (26.31)	11 (57.90)
9. Kerala . . . . .	1	1 (100.00)	—	1 (100.00)	—	—	—	—	—
10. Madhya Pradesh . . . . .	72	72 (100.00)	—	71 (98.61)	1 (1.38)	1 (100.00)	1 (100.00)	1 (100.00)	—
11. Maharashtra . . . . .	61	61 (100.00)	—	54 (88.52)	7 (11.48)	1 (14.28)	5 (71.43)	3 (42.85)	5 (71.43)
12. Orissa . . . . .	—	—	—	—	—	—	—	—	—
13. Rajasthan . . . . .	64	62 (66.88)	2 (3.13)	60 (93.75)	4 (6.25)	1 (25.00)	4 (100.00)	3 (75.00)	3 (75.00)
14. Tamil Nadu . . . . .	30	26 (86.67)	4 (13.33)	19 (63.33)	11 (36.67)	2 (18.18)	3 (27.27)	7 (63.63)	4 (36.36)
15. Uttar Pradesh . . . . .	21	20 (94.24)	1 (4.76)	21 (100.00)	—	—	—	—	—
16. West Bengal . . . . .	44	42 (95.45)	2 (4.55)	39 (88.64)	5 (11.36)	—	2 (40.00)	2 (40.00)	3 (60.00)
All States . . . . .	557	542 (97.31)	15 (2.69)	479 (86.00)	78 (14.00)	13 (16.66)	35 (44.87)	24 (30.77)	45 (57.69)

Figures in parenthesis in Cols. 3 to 6 are percentages to total figures in Col. 2.

Figures in parenthesis in Cols. 7 to 10 are percentages to total in Col. 6.

## No. reporting adoption of physical protective measures

Sl. No.	State	No. taken measures for protection of plants	No. reporting measures for physical protection of plants					Bricks Girdle
			Fence around individual plant	Barbed wire fence around whole plantation (Code-3)	Earth raised around the whole plantation (Code-3)	Thorough sticks put around plants	Chowki-dar engaged	
1		2	3	4	5	6	7	8
1. Andhra Pradesh		28	2 (7.14)	13 (46.43)	—	9 (32.14)	5 (17.86)	—
2. Assam		8	8 (100.00)	—	—	—	—	—
3. Bihar		63	19 (30.16)	2 (3.17)	25 (39.68)	25 (39.68)	3 (4.76)	2 (3.17)
4. Gujarat		16	2 (12.50)	—	5 (31.25)	5 (31.25)	4 (25.00)	—
5. Haryana		34	1 (2.94)	4 (11.76)	32 (94.12)	—	1 (2.94)	—
6. Himachal Pradesh		31	—	1 (3.23)	2 (6.45)	31 (100.00)	—	—
7. Jammu & Kashmir		21	—	9 (42.56)	5 (23.81)	6 (28.57)	3 (14.29)	—
8. Karnataka		32	8 (25.00)	9 (28.13)	6 (18.75)	10 (31.25)	4 (12.50)	—
9. Kerala		12	9 (75.00)	1 (8.33)	3 (25.00)	—	—	—
10. Madhya Pradesh		77	18 (23.38)	3 (3.90)	24 (31.17)	32 (41.56)	2 (2.60)	—
11. Maharashtra		56	19 (33.93)	—	26 (46.43)	14 (25.00)	—	4 (7.14)
12. Orissa		70	14 (20.00)	—	1 (1.43)	56 (80.00)	—	—
13. Rajasthan		63	9 (14.29)	13 (20.63)	9 (14.29)	37 (58.73)	—	3 (4.76)
14. Tamil Nadu		21	2 (9.52)	4 (19.05)	4 (19.05)	15 (71.54)	2 (9.52)	—
15. Uttar Pradesh		28	5 (17.86)	3 (10.71)	6 (21.43)	13 (46.43)	4 (14.29)	—
16. West Bengal		14	4 (28.57)	—	6 (42.86)	7 (50.00)	5 (35.71)	—
All States		574	120 (20.91)	62 (10.80)	154 (26.83)	260 (45.30)	33 (5.75)	9 (1.57)

Figures in brackets are percentages to total in Col. 2.

## Pests/disease attack on plants

State	Number of selected beneficiaries	Number reported plant protection measures prescribed	Number reported plant protection measures prescribed useful	Number reported plant protection measures prescribed not useful	Number reported pests/disease attack on plants		
					Termites and white ants	Rust	Other insects & pests
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	42	14 (33.3)	14 (100.0)	—	12 (28.6)	—	—
2. Assam . . . . .	35	1 (2.8)	—	—	—	—	—
3. Bihar . . . . .	71	32 (45.1)	27 (84.4)	2 (6.3)	12 (16.9)	9 (12.7)	5 (7.0)
4. Gujarat . . . . .	58	29 (50.0)	18 (62.1)	11 (37.9)	32 (55.2)	—	—
5. Haryana . . . . .	40	40 (100.0)	40 (100.0)	—	9 (22.5)	—	2 (5.0)
6. Himachal Pradesh . . . . .		21	(85.7)	1 (14.3)	28 (84.8)	—	3 (9.1)
7. Jammu & Kashmir . . . . .	40	—	—	—	—	—	—
8. Karnataka . . . . .	75	28 (37.3)	26 (92.9)	2 (7.1)	25 (33.3)	—	2 (2.7)
9. Kerala . . . . .	34	—	—	—	—	—	1 (2.9)
10. Madhya Pradesh . . . . .	105	60 (57.1)	54 (90.0)	—	26 (24.8)	—	—
11. Maharashtra . . . . .	61	3 (4.9)	3 (100.0)	—	13 (21.3)	—	—
12. Orissa . . . . .	76	—	—	—	11 (14.5)	—	—
13. Rajasthan . . . . .	71	64 (90.1)	34 (53.1)	20 (31.3)	47 (66.2)	—	2 (2.8)
14. Tamil Nadu . . . . .	45	11 (24.4)	6 (54.5)	4 (36.4)	18 (40.0)	1 (2.2)	2 (4.4)

	2	3	4	5	6	7	8
15. Uttar Pradesh . . . . .	63	17 (27.0)	10 (58.8)	3 (17.6)	20 (31.7)	—	—
16. West Bengal . . . . .	58	36 (62.1)	26 (72.2)	3 (8.3)	35 (60.3)	—	8 (13.8)
All States . . . . .	907	342 (37.7)	264 (77.2)	46 (13.4)	288 (31.8)	10 (1.1)	25 (2.8)

Figures in brackets in Cols. 3 and 6 to 8 are percentages to Col. 2.

Figures in bracket in Cols. 4 & 5 are percentages to Col. 3.



## Major sources of availability of Fuelwood

Sl. No.	State	Before					Total No. Reported
		Own source	Near by jungle	Open land in the village	Market	Any Other	
1		2	3	4	5	6	7
1. Andhra Pradesh		11 (26.2)	7 (16.3)	3 (7.1)	2 (4.8)	19 (45.2)	42
2. Assam		8 (22.9)	1 (2.9)	—	25 (71.4)	1 (2.9)	35
3. Bihar		11 (15.5)	37 (52.1)	4 (5.6)	16 (22.5)	3 (4.2)	71
4. Gujarat		51 (87.9)	4 (6.9)	—	—	3 (5.2)	58
5. Haryana		—	4 (10.0)	1 (2.5)	1 (2.5)	34 (85.0)	40
6. Himachal Pradesh		13 (39.4)	19 (57.6)	—	1 (3.03)	—	33
7. Jammu & Kashmir		30 (75.0)	1 (2.5)	—	1 (2.5)	8 (20.0)	40
8. Karnataka		51 (68.0)	2 (2.7)	12 (16.0)	3 (4.0)	7 (9.3)	75
9. Kerala		19 (55.9)	2 (5.9)	—	13 (38.2)	—	34
10. Madhya Pradesh		6 (5.7)	86 (81.9)	1 (0.9)	1 (0.9)	11 (10.5)	105
11. Maharashtra		12 (19.7)	44 (72.1)	—	5 (8.2)	—	61
12. Orissa		35 (46.1)	20 (26.3)	8 (10.5)	8 (10.5)	5 (6.6)	76
13. Rajasthan		23 (32.4)	36 (50.7)	3 (4.2)	1 (1.4)	8* (11.3)	71
14. Tamil Nadu		25 (55.6)	6 (13.3)	—	4 (8.9)	10 (22.2)	45
15. Uttar Pradesh		24 (38.1)	8 (12.7)	2 (3.2)	21 (33.3)	8* (12.7)	63
16. West Bengal		4 (6.9)	30 (51.7)	—	24 (41.4)	—	58
All States		323 (35.6)	307 (33.8)	34 (3.7)	126 (13.9)	117 (12.9)	907

Note : \*Used cow dung as fuel.

Figures in brackets are percentages to total number in Col. 7.

Sl. No.	State	After					Total No. Reported
		Own source	Near by jungle	Open land in the village	Market	Any Other	
1		8	9	10	11	12	13
1. Andhra Pradesh		11 (26.2)	7 (16.7)	3 (7.14)	2 (4.8)	19 (45.2)	42
2. Assam		8 (22.9)	1 (2.9)	—	25 (71.4)	1 (2.9)	35
3. Bihar		12 (16.9)	36 (50.7)	4 (5.6)	16 (22.5)	3 (4.2)	71
4. Gujarat		51 (87.9)	4 (6.9)	—	—	3* (5.2)	58
5. Haryana		—	4 (10.0)	1 (2.5)	1 (2.5)	34* (85.0)	40
6. Himachal Pradesh		12 (36.4)	20 (60.4)	—	1 (3.03)	—	33
7. Jammu & Kashmir		30 (75.0)	1 (2.5)	—	1 (2.5)	8 (20.0)	40
8. Karnataka		51 (68.0)	3 (4.0)	12 (16.0)	2 (2.7)	7 (9.3)	75
9. Kerala		19 (55.9)	2 (5.9)	—	13 (38.2)	—	34
10. Madhya Pradesh		6 (5.7)	86 (81.9)	1 (0.9)	1 (0.9)	11 (10.5)	105
11. Maharashtra		12 (19.7)	44 (72.1)	—	5 (8.2)	—	61
12. Orissa		35 (46.1)	20 (26.3)	8 (10.5)	8 (10.5)	5 (6.6)	76
13. Rajasthan		23 (32.4)	36 (50.7)	3 (4.2)	1 (1.4)	8* (11.3)	71
14. Tamil Nadu		25 (55.6)	6 (13.3)	—	4 (8.9)	10 (22.2)	45
15. Uttar Pradesh		24 (38.1)	8 (12.7)	2 (3.2)	21 (33.3)	8* (12.7)	63
16. West Bengal		5 (8.6)	29 (50.0)	—	24 (41.4)	—	58
All States		324 (35.7)	307 (33.8)	34 (3.7)	125 (13.8)	117 (12.9)	907

Figures in brackets are percentages to total number in Col. 13.

Note : \*Used cow dung cakes as fuel.



## Major sources of

Sl. No.	State	Before					Total No. Reported
		Own sources	Near by Jungle	Open land in the village	Market	Any Other	
1		2	3	4	5	6	7
1. Andhra Pradesh	.	23 (67·6)	—	1 (2·9)	—	10 (29·4)	34
2. Assam	.	19 (57·6)	—	12 (36·4)	1 (3·0)	1 (3·0)	33
3. Bihar	.	49 (84·5)	—	9 (15·5)	—	—	58
4. Gujarat	.	54 (94·7)	—	—	1 (1·8)	2 (3·5)	57
5. Haryana	.	29 (76·3)	—	—	—	9 (23·7)	38
6. Himachal Pradesh	.	21 (65·6)	10 (31·3)	—	1 (3·1)	—	32
7. Jammu & Kashmir	.	32 (82·1)	1 (2·6)	—	—	6 (15·4)	39
8. Karnataka	.	40 (57·1)	—	2 (2·9)	23 (32·9)	5 (7·1)	70
9. Kerala	.	12 (52·2)	3 (13·0)	—	4 (17·4)	4 (17·4)	23
10. Madhya Pradesh	.	40 (39·2)	51 (50·0)	9 (8·8)	—	2 (1·9)	102
11. Maharashtra	.	23 (52·3)	13 (29·5)	1 (2·3)	5 (11·4)	2 (4·5)	44
12. Orissa	.	39 (54·9)	4 (5·6)	24 (33·8)	—	4 (5·6)	71
13. Rajasthan	.	34 (50·0)	19 (27·9)	7 (10·3)	—	8 (11·8)	68
14. Tamil Nadu	.	20 (76·9)	—	3 (11·5)	1 (3·8)	2 (7·7)	26
15. Uttar Pradesh	.	50 (86·2)	5 (8·6)	—	2 (3·4)	1 (1·7)	58
16. West Bengal	.	47 (81·0)	2 (3·4)	—	8 (13·8)	1 (1·7)	58
All States	.	532 (65·6)	108 (13·2)	68 (8·4)	46 (5·7)	57 (7·0)	811

Figures in brackets are percentages to total in Col. 7

## availability of fodder

Sl. No.	State	After					Total No. Reported
		Own	Near by jungle	Open land in the village	Market	Any Other	
1		8	9	10	11	12	13
1. Andhra Pradesh		23 (67.6)	—	1 (2.9)	—	10 (29.4)	34
2. Assam		19 (57.6)	—	12 (36.4)	1 (3.0)	1 (3.0)	33
3. Bihar		49 (84.5)	—	9 (15.5)	—	—	58
4. Gujarat		54 (97.4)	—	—	1 (1.8)	2 (3.5)	57
5. Haryana		29 (78.3)	—	—	—	8 (21.6)	37
6. Himachal Pradesh		23 (69.7)	9 (27.3)	—	1 (3.03)	—	33
7. Jammu & Kashmir		32 (82.1)	1 (2.6)	—	—	6 (15.4)	39
8. Karnataka		40 (57.1)	5 (7.14)	—	23 (32.9)	2 (2.9)	70
9. Kerala		12 (80.0)	3 (12.5)	—	5 (20.8)	4 (16.7)	24
10. Madhya Pradesh		40 (39.2)	51 (50.0)	8 (7.8)	—	3 (2.9)	102
11. Maharashtra		23 (52.3)	13 (29.5)	1 (2.3)	5 (11.4)	2 (4.5)	44
12. Orissa		39 (54.9)	4 (5.6)	24 (33.8)	—	4 (5.6)	71
13. Rajasthan		35 (51.5)	18 (26.5)	7 (10.3)	—	8 (11.8)	68
14. Tamil Nadu		20 (76.9)	—	3 (11.5)	1 (3.8)	2 (7.7)	26
15. Uttar Pradesh		50 (86.2)	5 (8.6)	—	2 (3.4)	1 (1.7)	58
16. West Bengal		48 (82.7)	1 (1.7)	—	8 (13.8)	1 (1.7)	58
All States		536 (66.0)	110 (13.5)	65 (8.0)	47 (5.8)	54 (6.6)	812

Figures in brackets are percentages to total in Col. 13

## Major Sources of

Sl. No.	State	Before					Total No. Reported
		Own source	Near by jungle	Open land in the village	Market	Any other	
1		2	3	4	5	6	7
1. Andhra Pradesh		6 (14.3)	2 (4.7)	3 (7.1)	16 (38.1)	15@	42
2. Assam		1 (2.9)	1 (2.9)	—	33 (94.3)	(35.7)	35
3. Bihar		—	20 (28.2)	—	51 (71.8)	—	71
4. Gujarat		19 (32.8)	15 (25.8)	—	3 (5.2)	21 (36.2)	58
5. Haryana		—	—	—	39 (97.5)	1 (2.5)	40
6. Himachal Pradesh		10 (30.3)	23 (69.7)	—	—	—	33
7. Jammu & Kashmir		4 (10.0)	—	—	36 (90.0)	—	40
8. Karnataka		32 (42.7)	—	1 (1.3)	37 (49.3)	5 (6.7)	75
9. Kerala		22 (64.7)	1 (2.9)	—	9 (26.5)	2 (5.9)	34
10. Madhya Pradesh		6 (5.7)	84 (80.0)	—	5 (4.8)	10* (9.5)	105
11. Maharashtra		7 (11.5)	36 (59.0)	—	14 (22.9)	4 (6.6)	61
12. Orissa		4 (5.3)	22 (28.9)	2 (2.6)	45 (59.2)	3 (3.9)	76
13. Rajasthan		—	25 (35.2)	4 (5.6)	25 (35.2)	17@ (23.9)	71
14. Tamil Nadu		12 (26.7)	6 (13.3)	—	13 (28.9)	14@ (31.1)	45
15. Uttar Pradesh		11 (17.5)	6 (9.5)	—	45 (71.4)	1@ (1.6)	63
16. West Bengal		4 (6.9)	9 (15.5)	1 (1.7)	40 (68.9)	4 (6.9)	58
All States		138 (15.2)	250 (27.6)	11 (1.2)	411 (45.3)	97 (10.7)	907

Note : @No need felt in majority of the cases.

\*Purchased from forest department.

Figures in brackets are percentages to total in Cols. 7 & 13.

availability of Small Timber

State	After					Total No. Re- ported
	Own Source	Near by jungle	Open land in the village	Market	Any other	
1	8	9	10	11	12	13
1. Andhra Pradesh	6 (14.3)	2 (4.7)	3 (7.1)	16 (38.1)	15@ (35.7)	42
2. Assam	1 (2.9)	—	—	25 (71.4)	9 (25.7)@	35
3. Bihar	—	20 (28.2)	—	51 (71.8)	—	71
4. Gujarat	19 (32.8)	15 (25.8)	—	3 (5.2)	21@ (36.2)	58
5. Haryana	3 (7.5)	—	—	36 (90.0)	1@ (2.5)	40
6. Himachal Pradesh	11 (33.3)	22 (66.7)	—	—	—	33
7. Jammu & Kashmir	4 (10.0)	—	—	36 (90.0)	—	40
8. Karnataka	33 (44.0)	3 (4.0)	1 (1.3)	33 (44.0)	5 (6.7)	75
9. Kerala	22 (64.7)	1 (2.9)	—	9 (26.5)	2 (5.9)	34
10. Madhya Pradesh	6 (5.7)	84 (80.0)	—	5 (4.8)	10* (9.5)	105
11. Maharashtra	7 (11.5)	36 (59.0)	—	14 (22.9)	4 (6.6)	61
12. Orissa	4 (5.3)	22 (28.9)	2 (2.6)	45 (89.2)	3 (3.9)	76
13. Rajasthan	—	23 (32.4)	4 (5.6)	27 (38.0)	17@ (23.9)	71
14. Tamil Nadu	12 (26.7)	6 (13.3)	—	13 (28.9)	14 (31.1)	45
15. Uttar Pradesh	11 (17.5)	6 (9.5)	—	45 (71.4)	1@ (1.6)	63
16. West Bengal	4 (6.9)	9 (15.5)	1 (1.7)	40 (68.9)	4 (6.9)	58
All States	143 (15.8)	249 (27.4)	11 (1.2)	398 (43.9)	106 (11.7)	907

Family members going out to

Sl. No.	State	No. reported	For fuelwood				
			Women of the house only	Children only	Male members only	Any members	Any other
1		2	3	4	5	6	7
1. Andhra Pradesh	. . . . .	42	1 (2.4)	—	10 (23.8)	8 (19.0)	23 (54.8)
2. Assam	. . . . .	26	—	—	23 (88.4)	1 (3.8)	2 (7.7)
3. Bihar	. . . . .	71	24 (33.8)	1 (1.4)	8 (11.3)	33 (46.8)	5 (7.0)
4. Gujarat	. . . . .	56	14 (25.0)	—	10 (17.8)	26 (46.4)	6 (10.7)
5. Haryana	. . . . .	14	13 (92.8)	1 (1.1)	—	—	—
6. Himachal Pradesh	. . . . .	32	—	—	28 (84.8)	4 (12.1)	—
7. Jammu & Kashmir	. . . . .	40	3 (7.5)	1 (2.5)	23 (57.5)	13 (32.5)	—
8. Karnataka	. . . . .	75	4 (5.3)	—	24 (32.0)	40 (53.3)	7 (9.3)
9. Kerala	. . . . .	24	9 (37.5)	—	11 (45.8)	4 (16.7)	—
10. Madhya Pradesh	. . . . .	105	33 (31.4)	4 (3.8)	46 (43.8)	21 (20.0)	1 (0.9)
11. Maharashtra	. . . . .	61	31 (50.8)	—	22 (36.1)	6 (9.8)	2 (3.3)
12. Orissa	. . . . .	76	5 (6.6)	—	54 (71.0)	11 (14.4)	6 (7.9)
13. Rajasthan	. . . . .	70	20 (28.6)	1 (1.4)	12 (17.1)	36 (51.4)	1 (1.4)
14. Tamil Nadu	. . . . .	43	16 (57.2)	—	6 (13.9)	8 (41.9)	3 (7.0)
15. Uttar Pradesh	. . . . .	53	7 (13.2)	—	30 (56.6)	8 (15.1)	8 (15.1)
16. West Bengal	. . . . .	48	2 (4.2)	—	45 (73.7)	—	1 (2.1)
All States	. . . . .	836	182 (21.8)	8 (0.9)	352 (42.1)	229 (27.4)	65 (7.7)

(Figures in brackets in Cols. 3 to 7 are percentages to total in Col. 2).

## fetch fuel wood and fodder

Sl. No.	State	No. reported	For fodder				
			Women of the house only	Children only	Male members only	Any members	Any other
1.		8	9	10	11	12	13
1. Andhra Pradesh		34	—	—	8 (23.5)	4 (11.8)	22 (54.7)
2. Assam		2	—	—	1 (50.0)	1 (50.0)	—
3. Bihar		60	7 (11.7)	—	22 (36.6)	25 (41.7)	6 (10.4)
4. Gujarat		55	14 (25.5)	—	11 (20.0)	24 (43.6)	6 (10.9)
5. Haryana		38	4 (10.5)	3 (7.9)	31 (81.6)	—	—
6. Himachal Pradesh		32	—	—	27 (84.3)	5 (15.6)	—
7. Jammu & Kashmir		39	6 (15.4)	1 (2.6)	19 (48.7)	13 (33.3)	—
8. Karnataka		70	2 (2.8)	—	35 (50.0)	26 (37.1)	7 (10.0)
9. Kerala		15	7 (46.7)	1 (6.6)	6 (40.0)	1 (6.6)	—
10. Madhya Pradesh		83	18 (21.7)	4 (4.8)	31 (37.3)	29 (34.9)	1 (1.2)
11. Maharashtra		41	12 (29.3)	2 (4.9)	19 (46.3)	6 (14.6)	2 (4.9)
12. Orissa		71	—	—	39 (54.9)	27 (38.6)	5 (7.0)
13. Rajasthan		68	30 (44.1)	—	2 (2.9)	36 (52.9)	—
14. Tamil Nadu		26	7 (26.9)	—	3 (11.5)	13 (50.0)	3 (11.5)
15. Uttar Pradesh		55	4 (7.3)	—	36 (65.4)	6 (10.9)	9 (16.3)
16. West Bengal		11	2 (18.2)	—	8 (72.7)	—	1 (9.1)
All States		700	113 (16.1)	11 (1.6)	298 (42.6)	216 (30.8)	62 (68.8)

(Figures in brackets in Cols. 9 to 13 are percentages to total in Col. 8.)

## Sources of fuelwood and fodder by distance

Sl. No.	State	Fuelwood							
		Before				After			
		Number reported	Less than 1 Km.	One to 3 Kms.	Beyond 3 Kms.	Number reported	Less than 1 Kms.	One to 3 Kms.	Beyond 3 Kms.
1		2	3	4	5	6	7	8	9
1. Andhra Pradesh	.	42	21 (50.00)	20 (47.6)	1 (2.4)	42	22 (52.4)	19 (45.2)	1 (2.4)
2. Assam	.	26	17 (65.4)	8 (30.8)	1 (3.8)	26	17 (65.4)	8 (30.8)	1 (3.8)
3. Bihar	.	71	27 (38.0)	35 (49.3)	9 (12.7)	71	27 (38.0)	35 (49.3)	9 (12.7)
4. Gujarat	.	56	29 (51.8)	14 (25.0)	13 (23.2)	56	29 (51.8)	14 (25.0)	13 (23.2)
5. Haryana	.	14	12 (85.7)	2 (14.3)	—	14	12 (85.7)	2 (14.3)	—
6. Himachal Pradesh	.	32	17 (53.1)	14 (43.8)	1 (3.1)	32	7 (21.9)	23 (71.9)	2 (6.3)
7. Jammu & Kashmir	.	40	37 (92.5)	1 (2.5)	2 (5.0)	40	37 (92.5)	1 (2.5)	2 (5.0)
8. Karnataka	.	75	13 (17.3)	55 (73.3)	7 (9.3)	75	14 (18.7)	59 (78.7)	2 (2.7)
9. Kerala	.	24	16 (66.7)	8 (33.3)	—	24	16 (66.7)	8 (33.3)	—
10. Madhya Pradesh	.	105	39 (37.1)	52 (49.5)	14 (13.3)	105	40 (38.1)	51 (48.6)	14 (13.3)
11. Maharashtra	.	61	8 (13.1)	36 (59.0)	17 (27.9)	61	8 (13.1)	36 (59.0)	17 (27.9)
12. Orissa	.	76	50 (65.8)	20 (26.3)	6 (7.9)	76	50 (65.8)	20 (26.3)	6 (7.9)
13. Rajasthan	.	70	32 (45.7)	33 (47.1)	5 (7.1)	70	32 (45.7)	33 (47.1)	5 (7.1)
14. Tamil Nadu	.	43	33 (76.7)	9 (20.9)	1 (2.3)	43	32 (74.4)	10 (23.3)	1 (2.3)
15. Uttar Pradesh	.	53	29 (54.7)	17 (32.1)	7 (13.2)	53	28 (52.8)	18 (34.0)	7 (13.2)
16. West Bengal	.	48	4 (8.3)	17 (35.4)	27 (56.3)	48	5 (10.4)	16 (33.3)	27 (56.3)
All States	.	836	384 (45.9)	341 (40.8)	111 (13.3)	836	376 (45.0)	353 (42.2)	107 (12.8)

before and after the Programme.

State	Fodder							
	Before				After			
	Number reported	Less than 1 Kms.	One to 3 Kms.	Beyond 3 Kms.	Number reported	Less than 1 Kms.	One to 3 Kms.	Beyond 3 Kms.
1	10	11	12	13	14	15	16	17
1. Andhra Pradesh .	34	22 (64·7)	12 (35·3)	—	34	22 (64·7)	12 (35·3)	—
2. Assam . . . .	2	1 (50·0)	—	1 (50·0)	2	2 (100·0)	—	—
3. Bihar . . . .	60	45 (75·0)	7 (11·7)	8 (13·8)	60	46 (76·7)	7 (11·7)	7 (11·7)
4. Gujarat . . . .	55	36 (65·5)	17 (30·9)	2 (3·6)	55	36 (65·5)	17 (30·9)	2 (3·6)
5. Haryana . . . .	38	31 (81·6)	7 (18·4)	—	38	31 (81·6)	7 (18·4)	—
6. Himachal Pradesh .	32	24 (75·0)	8 (25·0)	—	32	18 (56·3)	13 (40·6)	1 (3·1)
7. Jammu & Kashmir	39	38 (97·4)	—	1 (2·6)	39	38 (97·4)	—	1 (2·6)
8. Karnataka . . .	70	10 (14·3)	33 (47·1)	27 (47·1)	70	10 (14·3)	37 (52·9)	23 (32·9)
9. Kerala . . . .	15	14 (93·3)	1 (6·7)	—	15	13 (86·7)	2 (13·3)	—
10. Madhya Pradesh .	83	58 (69·9)	25 (30·1)	—	83	58 (69·9)	25 (30·1)	—
11. Maharashtra . .	41	8 (19·5)	23 (56·1)	10 (24·4)	41	8 (19·5)	23 (56·1)	10 (24·4)
12. Orissa . . . .	71	50 (70·4)	21 (29·6)	—	71	50 (70·4)	21 (29·6)	—
13. Rajasthan . . .	68	35 (51·5)	31 (45·6)	2 (2·9)	68	35 (51·5)	32 (47·1)	1 (1·5)
14. Tamil Nadu . . .	26	19 (73·1)	6 (23·1)	1 (3·8)	26	19 (73·1)	6 (23·1)	1 (3·8)
15. Uttar Pradesh .	55	48 (87·3)	7 (12·7)	—	55	48 (87·3)	7 (12·7)	—
16. West Bengal . .	11	2 (18·2)	6 (54·5)	3 (27·3)	11	2 (18·2)	5 (45·5)	4 (36·4)
All States . . . .	700	441 (63·0)	204 (29·1)	55 (7·9)	700	436 (62·3)	214 (30·6)	50 (7·1)

Figures in brackets are percentages.



## Person hours spent per week for meeting the fuel and fodder needs before and after the Programme

State	Number reported	For fuel (No. reporting)						
		Before			No. reported.	After		
		up to 7 hours.	7—15 hours.	Above 15 hours.		up to 7 hours.	7—15 hours.	Above 15 hours.
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh . . . . .	42	42 (100·00)	—	—	42	42 (100·00)	—	—
2. Assam . . . . .	26	26 (100·00)	—	—	26	26 (100·0)	—	—
3. Bihar . . . . .	71	—	40 (56·3)	31 (43·7)	71	—	40 (56·3)	31 (43·7)
4. Gujarat . . . . .	56	39 (69·6)	17 (30·4)	—	56	39 (69·6)	17 (30·4)	—
5. Haryana . . . . .	14	5 (35·7)	9 (64·3)	—	14	5 (35·7)	9 (64·3)	—
6. Himachal Pradesh . . . . .	32	13 (40·6)	16 (50·0)	3 (9·4)	32	8 (25·0)	19 (59·4)	5 (15·6)
7. Jammu & Kashmir . . . . .	40	28 (70·0)	9 (22·5)	3 (7·5)	40	28 (70·0)	9 (22·5)	3 (7·5)
8. Karnataka . . . . .	75	75 (100·0)	—	—	75	75 (100·0)	—	—
9. Kerala . . . . .	24	23 (95·8)	1 (4·2)	—	24	23 (95·8)	1 (4·2)	—
10. Madhya Pradesh . . . . .	105	32 (30·5)	54 (51·4)	19 (18·1)	105	32 (30·5)	54 (51·4)	19 (18·1)
11. Maharashtra . . . . .	61	30 (49·2)	23 (37·7)	8 (13·1)	61	29 (47·5)	24 (39·4)	8 (13·1)
12. Orissa . . . . .	76	52 (68·4)	14 (18·4)	10 (13·2)	76	52 (68·4)	14 (18·4)	10 (13·2)
13. Rajasthan . . . . .	70	29 (41·4)	37 (52·9)	4 (5·7)	70	28 (40·0)	38 (54·3)	4 (5·7)
14. Tamil Nadu . . . . .	43	22 (51·2)	18 (41·9)	3 (6·9)	43	21 (48·8)	19 (44·2)	3 (7·0)
15. Uttar Pradesh . . . . .	53	21 (39·6)	18 (34·0)	14 (26·4)	53	21 (39·6)	18 (34·0)	14 (26·4)
16. West Bengal . . . . .	48	39 (81·2)	9 (18·8)	—	48	39 (81·2)	9 (18·8)	—
All States . . . . .	836	476 (56·9)	265 (31·7)	95 (11·4)	836	468 (56·0)	271 (32·4)	97 (11·6)

Figures in brackets are percentages.

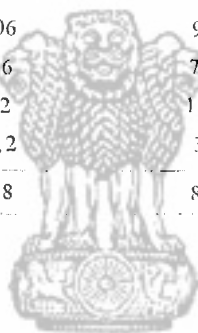
## Person hours spent per week for meeting the fuel and fodder needs before and after the Programme

State	Number reported.	For Fodder (No. reporting)						
		before			No. reported	After		
		Upto 7 hours	7—15 hours	Above 15 hours		Upto 7 hours	7—15 hours	above 15 hrs.
1	10	11	12	13	14	15	16	17
1. Andhra Pradesh . . . . .	34	32 (94.1)	2 (5.8)	—	34	32 (94.1)	2 (5.8)	—
2. Assam . . . . .	2	2 (100.0)	—	—	2	2 (100.0)	—	—
3. Bihar . . . . .	60	—	35 (58.3)	25 (41.7)	60	—	35 (58.3)	25 (41.7)
4. Gujarat . . . . .	55	40 (72.7)	13 (23.6)	2 (3.6)	55	40 (72.7)	13 (23.6)	2 (3.6)
5. Haryana . . . . .	38	—	19 (50.0)	19 (50.0)	38	—	19 (50.0)	19 (50.0)
6. Himachal Pradesh . . . . .	32	7 (21.8)	15 (46.8)	10 (31.3)	32	7 (21.8)	10 (31.3)	15 (46.8)
7. Jammu & Kashmir . . . . .	39	23 (59.0)	12 (30.8)	4 (10.2)	39	23 (59.0)	12 (30.8)	4 (10.2)
8. Karnataka . . . . .	70	43 (61.4)	15 (21.4)	12 (17.1)	70	44 (62.8)	14 (20.0)	12 (17.1)
9. Kerala . . . . .	15	15 (100.0)	—	—	15	15 (100.0)	—	—
10. Madhya Pradesh . . . . .	83	6 (7.2)	54 (65.1)	23 (27.7)	83	7 (8.4)	53 (63.8)	23 (27.7)
11. Maharashtra . . . . .	41	24 (58.5)	11 (26.8)	6 (14.6)	41	23 (56.1)	12 (29.3)	6 (14.6)
12. Orissa . . . . .	71	69 (97.2)	2 (2.8)	—	71	69 (97.2)	2 (2.8)	—
13. Rajasthan . . . . .	68	22 (32.3)	31 (45.6)	15 (22.0)	68	22 (32.3)	32 (47.1)	14 (20.6)
14. Tamil Nadu . . . . .	26	18 (69.2)	8 (30.8)	—	26	18 (69.2)	7 (26.9)	1 (3.8)
15. Uttar Pradesh . . . . .	55	3 (5.4)	14 (25.5)	38 (69.1)	55	2 (3.6)	15 (27.3)	38 (69.1)
16. West Bengal . . . . .	11	11 (100.0)	—	—	11	11 (100.0)	—	—
All States . . . . .	700	315 (45.0)	231 (33.0)	154 (22.0)	700	315 (45.0)	226 (32.3)	159 (22.7)

Figures in brackets are percentages.

## Average person hours spent per week

State	Average person hours spent for meeting fuel need		Average person hours spent for meeting fodder needs	
	Before	After	Before	After
1	2	3	4	5
1. Andhra Pradesh . . . . .	2.86	2.85	5.00	5.00
2. Assam . . . . .	1.84	1.84	1.50	1.50
3. Bihar . . . . .	20.68	20.68	20.30	20.41
4. Gujarat . . . . .	5.88	5.88	6.93	6.93
5. Haryana . . . . .	9.62	9.62	17.16	17.16
6. Himachal Pradesh . . . . .	8.56	11.03	15.31	18.87
7. Jammu & Kashmir . . . . .	7.10	7.10	8.28	8.28
8. Karnataka . . . . .	4.08	3.64	8.84	8.61
9. Kerala . . . . .	3.83	3.83	4.50	4.33
10. Madhya Pradesh . . . . .	10.63	10.74	13.08	13.19
11. Maharashtra . . . . .	9.23	9.23	10.37	10.41
12. Orissa . . . . .	6.59	6.59	3.86	3.86
13. Rajasthan . . . . .	9.06	9.08	12.24	11.35
14. Tamil Nadu . . . . .	7.86	7.74	7.12	7.15
15. Uttar Pradesh . . . . .	11.32	11.28	27.28	27.45
16. West Bengal . . . . .	40.2	3.89	1.80	1.33
All States . . . . .	8.38	8.43	11.83	11.91



सत्यमेव जयते

## Suggestions for marketing of produce

State	No. of selected beneficiaries	No. reported given thought towards marketing of produce	Steps suggested towards marketing of produce ; No. of replies				Total
			Cooperative marketing society should be organised	Local panchayat members should look to the sale through private contractors	Private traders should buy the produce through local bodies	Any other	
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	42	7 (16.67)	6 (85.7)	—	—	1 (14.3)	7
2. Assam . . . . .	35	—	—	—	—	—	—
3. Bihar . . . . .	71	2 (2.82)	—	—	—	—	—
4. Gujarat . . . . .	58	20 (34.38)	6 (21.4)	—	—	22 (78.6)	28
5. Haryana . . . . .	40	13 (32.50)	—	—	2 (7.4)	25 (92.6)	27
6. Himachal Pradesh . . . . .	33	3 (9.09)	—	4 (57.1)	1 (14.3)	2 (28.6)	7
7. Jammu & Kashmir . . . . .	40	7 (17.50)	—	—	—	21 (100.00)	21
8. Karnataka . . . . .	75	33 (44.00)	15 (17.9)	33 (39.3)	28 (33.3)	8 (9.5)	84
9. Kerala . . . . .	34	—	—	—	—	—	—
10. Madhya Pradesh . . . . .	105	3 (2.86)	3 (42.8)	—	4 (57.1)	—	7
11. Maharashtra . . . . .	61	14 (22.95)	14 (100.0)	—	—	—	14
12. Orissa . . . . .	76	—	—	—	—	—	13
13. Rajasthan . . . . .	71	28 (39.44)	60 (80.00)	5 (6.7)	7 (9.3)	3 (4.0)	75
14. Tamil Nadu . . . . .	45	10 (22.22)	19 (90.50)	—	—	2 (9.5)	21
15. Uttar Pradesh . . . . .	63	7 (11.11)	10 (66.7)	—	—	5 (33.3)	15
16. West Bengal . . . . .	58	8 (13.79)	10 (50.0)	4 (20.0)	—	6 (30.0)	20
All States . . . . .	907	155 (17.9)	143 (43.9)	46 (14.1)	42 (12.9)	95 (29.1)	326

(Note Figs. in brackets are percentages to figures in Col. 8)

## Reasons for being satisfied/not satisfied with the Programme

Sl. No.	State	No. of beneficiaries selected	No. reported being satisfied with SF Programme	Reasons for being satisfied, No. reported						
				Fodder will be plenty	Fuel plenty	Small timber plenty	Fruits plenty	Soil erosion checked	Strong wind checked	Others
1.	2	3	4	5	6	7	8	9	10	11
1.	Andhra Pradesh	42	29 (69.05)	1 (3.45)	14 (48.28)	28 (96.55)	—	—	—	6 (20.69)
2.	Assam	35	35 (100.00)	—	26 (74.29)	25 (71.43)	8 (22.86)	—	—	5 (14.29)
3.	Bihar	71	45 (63.38)	6 (13.33)	37 (82.22)	19 (42.22)	32 (71.11)	—	—	11 (24.44)
4.	Gujarat	58	39 (67.24)	—	11 (28.21)	25 (64.10)	2 (5.13)	—	8 (20.51)	18 (46.15)
5.	Haryana	40	36 (90.00)	—	1 (2.78)	35 (97.22)	—	10 (27.78)	36 (100.00)	—
6.	Himachal Pradesh	33	27 (81.82)	13 (48.15)	22 (81.49)	18 (66.67)	—	1 (3.70)	—	16 (59.26)
7.	Jammu & Kashmir	40	40 (100.00)	26 (65.00)	37 (92.50)	37 (92.50)	—	8 (20.00)	—	3 (7.50)
8.	Karnataka	75	55 (73.33)	9 (16.36)	41 (74.55)	51 (92.73)	—	2 (3.64)	2 (3.64)	30 (54.55)
9.	Kerala	34	12 (35.29)	—	8 (66.67)	8 (66.67)	—	8 (66.67)	2 (16.67)	3 (25.00)
10.	Madhya Pradesh	105	68 (64.76)	23 (33.82)	62 (91.18)	49 (72.06)	34 (50.00)	—	—	1 (1.47)
11.	Maharashtra	61	51 (83.61)	20 (39.22)	18 (35.29)	31 (60.78)	18 (35.29)	3 (5.88)	1 (1.96)	27 (52.94)
12.	Orissa	76	42 (55.26)	—	3 (7.14)	6 (14.29)	—	—	—	38 (90.48)
13.	Rajasthan	71	67 (94.37)	17 (25.37)	51 (76.12)	53 (79.10)	14 (20.90)	3 (4.48)	8 (11.94)	28 (41.79)
14.	Tamil Nadu	45	39 (86.87)	2 (5.13)	11 (28.12)	28 (71.79)	7 (17.95)	—	—	10 (25.64)
15.	Uttar Pradesh	63	58 (92.06)	11 (18.97)	49 (84.48)	46 (79.31)	2 (3.45)	5 (8.62)	—	26 (44.83)
16.	West Bengal	58	49 (84.48)	25 (51.02)	39 (79.59)	27 (55.10)	4 (8.16)	1 (2.04)	1 (2.04)	9 (18.37)
All States		907	692 (76.30)	153 (22.19)	430 (62.13)	486 (70.23)	121 (17.48)	41 (5.92)	58 (8.38)	231 (33.38)

Figures in brackets in Cols. 4 &amp; 12 are percentages to total in Col.3.

Figures in brackets in Cols. 5 to 11 are percentages to total in Col. 4.

Sl. No.	State	No. not satisfied with SF Programme	Reported		Reasons for not being satisfied		
			Non-availability of irrigation	Costlier to raise plants	Species prone to termites & other insects.	No satisfactory advice Received.	Others
1	2	12	13	14	15	16	17
1. Andhra Pradesh		13 (30.95)	2 (15.38)	4 (30.77)	—	4 (30.77)	7 (53.85)
2. Assam		—	—	—	—	—	—
3. Bihar		26 (36.62)	2 (7.69)	23 (88.46)	8 (30.76)	3 (11.54)	10 (38.46)
4. Gujarat		19 (32.76)	5 (26.32)	—	7 (36.84)	5 (26.32)	16 (84.21)
5. Haryana		4 (10.00)	—	1 (25.00)	4 (100.00)	—	4 (100.00)
6. Himachal Pradesh		6 (18.18)	5 (83.33)	—	—	1 (16.67)	5 (83.34)
7. Jammu & Kashmir		—	—	—	—	—	—
8. Karnataka		20 (26.67)	10 (50.00)	11 (55.00)	1 (5.00)	4 (20.00)	16 (80.00)
9. Kerala		22 (64.71)	11 (50.00)	6 (27.27)	1 (4.55)	9 (40.91)	9 (40.91)
10. Madhya Pradesh		37 (35.24)	30 (81.08)	25 (67.57)	9 (24.33)	22 (59.46)	3 (8.11)
11. Maharashtra		10 (16.39)	4 (40.00)	4 (40.00)	1 (10.00)	2 (20.00)	4 (40.00)
12. Orissa		34 (44.74)	18 (52.94)	5 (14.71)	2 (5.88)	20 (58.82)	29 (85.30)
13. Rajasthan		4 (5.63)	3 (75.00)	—	1 (25.00)	—	1 (25.00)
14. Tamil Nadu		6 (13.33)	5 (83.33)	—	3 (50.00)	3 (50.00)	2 (33.34)
15. Uttar Pradesh		5 (7.94)	1 (20.00)	2 (40.00)	—	2 (40.00)	1 (20.00)
16. West Bengal		9 (15.52)	1 (11.11)	5 (55.55)	—	—	8 (88.88)
All States		215 (23.70)	97 (45.12)	86 (40.00)	37 (17.21)	75 (34.88)	115 (53.49)

Figures in brackets in Cols. 4 & 12 are percentages to total in Col. 3.

Figures in brackets in Cols. 13 to 17 are percentages to total in Col. 12.

## Measures suggested for Improvement

Sl. No.	State	No. of beneficiaries selected	No. suggested measures for improvement	No. not suggested for measures for improvement	Measures for Improvement	
					Species suitable to the area to be supplied	Subsidy needed for fencing
1		2	3	4	5	6
1. Andhra Pradesh		42	40 (95·24)	2 (4·76)	—	18 (45·00)
2. Assam		35	35 (100·00)	—	—	5 (14·29)
3. Bihar		71	65 (91·55)	6 (8·45)	5 (7·69)	44 (67·69)
4. Gujarat		58	49 (84·48)	9 (15·52)	6 (12·24)	—
5. Haryana		40	32 (80·00)	8 (20·00)	4 (12·50)	—
6. Himachal Pradesh		33	32 (96·97)	1 (3·03)	2 (6·25)	4 (12·50)
7. Jammu & Kashmir		40	40 (100·00)	—	8 (20·00)	24 (60·00)
8. Karnataka		75	73 (97·33)	2 (2·67)	3 (4·11)	44 (60·37)
9. Kerala		34	33 (97·06)	1 (2·94)	1 (3·03)	10 (30·30)
10. Madhya Pradesh		105	97 (92·38)	8 (7·62)	10 (10·31)	79 (81·44)
11. Maharashtra		61	39 (63·93)	22 (36·07)	2 (5·13)	21 (53·85)
12. Orissa		76	66 (86·84)	10 (13·16)	21 (31·28)	9 (13·64)
13. Rajasthan		71	71 (100·00)	—	17 (23·94)	23 (32·39)
14. Tamil Nadu		45	35 (77·78)	10 (22·22)	13 (37·14)	8 (22·86)
15. Uttar Pradesh		63	46 (73·02)	17 (26·98)	9 (19·57)	20 (43·48)
16. West Bengal		58	58 (100·00)	—	3 (5·17)	25 (43·10)
All States		907	811 (89·42)	96 (10·58)	104 (12·82)	334 (41·18)

Figures in brackets in cols. 3 & 4 indicate percentage to total in Col. 2 and those in Cols. 5 to 11 are percentages to total in Col. 3.

State	Measures for Improvement No. reported				
	Quick growing species be provided	Disease-Insects (pests resisted species be provided)	Advice guidance should be regularly available	Arrangements for marketing of produce needed	Others
1	7	8	9	10	11
1. Andhra Pradesh	2 (5.00)	2 (5.00)	23 (57.50)	—	11 (27.50)
2. Assam	16 (45.71)	—	10 (28.57)	—	12 (34.29)
3. Bihar	11 (16.92)	8 (12.31)	17 (26.15)	1 (1.54)	15 (23.08)
4. Gujarat	13 (26.53)	14 (28.57)	9 (18.37)	11 (22.45)	16 (32.65)
5. Haryana	5 (15.63)	4 (12.50)	1 (3.13)	7 (21.88)	15 (46.88)
6. Himachal Pradesh	11 (34.38)	6 (18.75)	12 (37.50)	—	23 (71.88)
7. Jammu & Kashmir	—	—	5 (12.50)	—	34 (85.00)
8. Karnataka	10 (13.70)	2 (2.74)	17 (23.29)	1 (1.37)	43 (61.64)
9. Kerala	6 (18.18)	—	18 (54.55)	3 (9.09)	19 (57.58)
10. Madhya Pradesh	18 (18.56)	16 (16.49)	32 (32.99)	—	4 (4.12)
11. Maharashtra	1 (2.56)	3 (7.69)	23 (58.97)	—	19 (48.72)
12. Orissa	—	—	26 (39.39)	—	50 (75.76)
13. Rajasthan	35 (49.30)	16 (22.54)	48 (37.61)	7 (9.86)	15 (21.13)
14. Tamil Nadu	16 (45.71)	3 (8.57)	16 (45.71)	—	5 (14.29)
15. Uttar Pradesh	6 (13.04)	—	23 (50.00)	1 (2.17)	14 (30.43)
16. West Bengal	17 (29.31)	8 (13.79)	20 (34.48)	6 (10.34)	26 (44.83)
All States	167 (20.59)	82 (10.11)	300 (36.99)	37 (4.56)	323 (39.83)



## Reasons for not willing to take up Farm Forestry

Sl. No.	State	No. of beneficiaries selected	No. not willing to take plantation on continuous basis	No. reported reasons for not willing to take up plantations on continuous basis		
				Growth of other crops around is affected	Attract/pests/Insects which adversely affect the crops.	Others
1		2	3	4	5	6
1. Andhra Pradesh		42	4 (9.52)	1 (25.00)	—	4 (100.00)
2. Assam		35	—	—	—	—
3. Bihar		71	10 (14.08)	—	2 (20.00)	10 (100.00)
4. Gujarat		58	10 (17.24)	1 (10.00)	—	9 (90.00)
5. Haryana		40	2 (5.00)	1 (50.00)	2 (100.00)	—
6. Himachal Pradesh		33	2 (6.06)	—	—	2 (100.00)
7. Jammu & Kashmir		40	—	—	—	—
8. Karnataka		75	1 (28.00)	4 (19.05)	—	18 (85.71)
9. Kerala		34	1 (2.94)	—	—	1 (100.00)
10. Madhya Pradesh		105	7 (6.67)	—	3 (42.86)	4 (57.14)
11. Maharashtra		61	17 (27.87)	2 (11.76)	4 (23.53)	16 (94.12)
12. Orissa		76	4 (5.26)	1 (25.00)	—	4 (100.00)
13. Rajasthan		71	3 (4.23)	2 (66.66)	—	1 (33.33)
14. Tamil Nadu		45	—	—	—	—
15. Uttar Pradesh		63	6 (9.52)	1 (16.67)	—	4 (66.67)
16. West Bengal		58	4 (6.90)	—	—	3 (75.00)
All States		907	91 (10.03)	13 (14.29)	11 (12.09)	76 (83.52)

Figures in brackets indicate percentage to total in Col. 3, and those in Col. 3 are percentages to total in Col. 2.

## CHAPTER VI

### BENEFICIARY HOUSEHOLDS--LANDLESS LABOUR

One of the objectives of the Social Forestry Programme was the creation of additional employment opportunities through forestry activities. It was estimated that during the Sixth Plan period primary and secondary sectors forestry activities would generate about 240 million person days of employment every year. Keeping these objectives in view, it was decided that main thrust in the Programme would be towards promotion of people's forestry programme. The Evaluation Study aimed at assessing *inter alia* the economic impact of the Programme on the local population, especially the rural poor in terms of generation of employment through forestry programme on public and panchayat land. The study design provided for selection of five landless labourers per selected village who had worked on block plantations on panchayat and public land during 1981-82 or in 1982-83, where the Programme was implemented after 1981-82. In the event of non-availability of required number of landless labour beneficiaries in the selected villages efforts were made to find out such beneficiaries within a radius of five to eight kms. from the selected villages. As against the expected sample size of 1280 landless labour beneficiaries @ five per selected village, the actual number of the beneficiaries that could be selected even from within a radius of five to eight kms. from the selected villages was only 445. The reasons for shortfall being non-availability of the landless labour households who had worked on wage employment on block plantations. Block plantations on public and panchayat land were hardly taken up in and around the selected villages. So much so that only in 23 out of 256 selected villages, about nine per cent, block plantations were raised on community land. In three States—Assam, Kerala and Madhya Pradesh—no landless labour beneficiary households were available in the selected villages. The migratory nature of the landless labourers and also nature of their employment contributed to shortfall in their number being selected for the purpose of the study. In a few cases the work was entrusted to the contractors who had their own labour force from outside the area, thus denying employment to the local poor people. Out of 445 beneficiary households selected, 440 were actually available with whom the the schedule-cum-questionnaire was canvassed in course of the study.

#### *Demographic features of the selected beneficiaries*

6.2 It would be interesting to study some of the demographic features of the selected landless labour beneficiaries. For the purpose of selection, it was decided to prepare separate lists of households headed by men and women and selection was to be made from the two lists at the rate of five beneficiaries per village in the ratio of three for male and two for female. Out of 440 beneficiaries selected 390 (89

per cent) were male and 50 (11 per cent) female. In Andhra Pradesh, half of the selected beneficiaries were female, followed by 40 per cent in Karnataka, 28 per cent in Gujarat and 26 per cent in Maharashtra. In other States very few female beneficiaries could be selected for the purpose of the study. Out of 440 beneficiaries 169 (38 per cent) were 25 years and less, 134 (30 per cent) between 25 and 30 years, 111 (25 per cent) between 35 and 50 years and only 26 (six per cent) above 50 years. The data tend to show that about 94 per cent of the beneficiaries were within 50 years of age. 278 beneficiaries (63 per cent) were illiterate, 70 (16 per cent) read upto primary and 90 beneficiaries (20 per cent) read upto matric, whereas two from Jammu & Kashmir had post-matric qualification. A good proportion of the selected beneficiaries in Maharashtra (52 per cent), Himachal Pradesh (48 per cent), Jammu & Kashmir (32 per cent) and Haryana (30 per cent) had education above primary level.

One hundred fifty-six (35 per cent) belonged to Scheduled Castes, 58 (13 per cent) Scheduled Tribes and 97 (22 per cent) other Backward Communities. A sizeable proportion of Scheduled Castes and Tribes among the selected beneficiaries was noticed in Bihar (92 per cent), followed by West Bengal (83 per cent), Rajasthan and Haryana (75 per cent each), and Gujarat (51 per cent). Eighty per cent of the selected beneficiaries reported either agricultural and non-agricultural labour as principal occupation, whereas another seven per cent had other principal occupations like artisan craft, household industries, service in local bodies, Municipalities etc. In Haryana, Orissa, Bihar, Karnataka and West Bengal, more than 90 per cent of the selected beneficiaries reported agricultural or non-agricultural labour as principal occupation whereas in Tamil Nadu, Gujarat, Himachal Pradesh and Uttar Pradesh their proportion ranged between 75 per cent and 90 per cent. Of 440 selected beneficiaries 299 (68 per cent) reported some subsidiary occupations. Ninety-six (22 per cent) reported cultivation as subsidiary occupation. In Karnataka 80 per cent of the selected beneficiaries reported cultivation as subsidiary occupation. One hundred sixty-two (37 per cent) had also reported agricultural/non-agricultural labour as subsidiary occupation. Proportion of the households reporting agricultural and non-agricultural labour as subsidiary occupation was fairly high in Andhra Pradesh, Bihar, Haryana, Jammu & Kashmir, Orissa and Rajasthan. Statewise distribution of the selected beneficiaries according to sex, age-groups, literacy standard, social groups and occupations are given at Annexes 6.1 to 6.3.

#### *Sites of employment*

6.3 In course of the Evaluation Study, data were collected about the sites on which they were employed. In some cases the beneficiaries, had worked on more

than one site. Two hundred thirty-six (54 per cent) reported employment on strip-plantations along roadsides and only 108 (25 per cent) worked on block plantations on panchayat land. The number who worked alongside canals and railway lines was quite insignificant, whereas 126 (29 per cent) had worked on other sites during Vanmahotsav, fair etc. Except in Orissa, the selected beneficiaries had worked on strip-plantations along roadsides in all other States. Employment on block plantations on panchayat land was provided in Uttar Pradesh (94 per cent), Tamil Nadu (65 per cent) and Rajasthan (19 per cent), only. Employment along the railway track was reported from Haryana only. In Jammu & Kashmir, Tamil Nadu and Haryana the selected beneficiaries reported some employment alongside canals and the respondents from Karnataka and West Bengal were provided employment on tank bed also. The State-wise distribution is given at Annex 6.4.

#### *Year of first and subsequent employment*

6.4 The Evaluation Study focussed attention on the year the beneficiaries were provided employment on the Social Forestry Programme for the first time and the extend of wage employment on Social Forestry in subsequent years. The year of first and subsequent years of employment offered to the selected beneficiaries are given in the table below :

**Table 6.1 : Year of employment on social Forestry**

Year	Number worked for one year only	number worked subsequent years also	Total
1980-81	—	34 (100.0)	34
1981-82	68 (30.5)	155 (69.5)	223
1982-83	98 (53.6)	85 (46.4)	183
Total	166 (37.7)	274 (62.3)	440

(Figure in brackets indicate percentages to total)

One hundred sixty-six (38 per cent) selected beneficiaries had worked for one year only in either of the years 1981-82 and 1982-83, the maximum number being 98 (22 per cent), provided employment in 1982-83. Thirty-four (eight per cent) sample beneficiaries who were provided first employment in 1980-81 also reported wage employment in one or more of the subsequent years. Similarly, another 155 (35 per cent) selected beneficiaries employed for first time in 1981-82 also had worked in subsequent years. Eighty-five (19 per cent) beneficiaries having first employment in 1982-83 were also employed in the subsequent year. The Statewise distribution of the number of selected beneficiaries is given at Annex.

6.5 Looking across the States, in initial year 1980-81, 12 (31 per cent) selected beneficiaries from Gujarat, seven (17 per cent) from Haryana, eleven (41 per cent) from Himachal Pradesh and four (12 per cent) from Rajasthan were provided employment. Since many other States came within the fold of the Social Forestry Programme in the following year, large number of the selected beneficiaries were provided employment under the Programme in Gujarat,

Haryana, Himachal Pradesh, for Karnataka, Tamil Nadu and West Bengal during 1981-82. During 1982-83, the selected beneficiaries from Andhra Pradesh, Bihar, Jammu & Kashmir, Maharashtra, Rajasthan and a sizeable number from Uttar Pradesh were provided employment.

#### *Involvement of family members in wage employment*

6.5 With a view to studying the extent of wage employment on public plantations given to the family members of the selected landless labour beneficiaries, data were collected in course of the Evaluation study. Of 440 selected beneficiaries 435 (99 per cent) had male adult working members in the family whereas female adult working members in the family were reported by 426 (97 per cent) beneficiaries. Two hundred nine (48 per cent) selected beneficiaries reported wage employment on Social Forestry by all male members in the family and in 126 (29 per cent) cases fifty to seventy-five per cent of the male working members in the family were employed on Social Forestry. Wage employment on the Social Forestry by twenty-five to less than fifty per cent of total male working members was reported by another 63 (14 per cent) selected beneficiaries. Wage employment by the female family members was reported by only 100 (23 per cent) selected beneficiaries out of 426 reporting female working members in the family. In Jammu & Kashmir and Orissa, no female working members of the selected beneficiaries worked on wage employment on Social Forestry. In 46 (11 per cent) cases all female members in the family were employed on Social Forestry, whereas for other 44 (10 per cent) selected beneficiaries fifty to less than seventy-five per cent of the female members were employed on Social Forestry. Statewise picture is brought out in the table at Annex 6.6.

#### *Awareness of plantation sites and benefits under the Programme*

6.6 The selected beneficiaries were asked to indicate the sites on which public plantations were undertaken. Sixty-five per cent of the selected beneficiaries reported plantations alongside roads, 26 per cent on panchayat land, 18 per cent on private land and 38 per cent on other sites. The plantations on panchayat land was reported by the selected beneficiaries from Rajasthan (53 per cent), Tamil Nadu (65 per cent) and Uttar Pradesh (100 per cent). Roadside plantations were reported by the selected beneficiaries from all States, barring Orissa, ranging from about nine per cent from Tamil Nadu to hundred per cent in Haryana and Bihar. The selected beneficiaries were asked as to the source of their knowledge about the Programme. As given in the table at Annex 6.7, about 83 per cent of the selected beneficiaries reported the Forest Department as the primary source of knowledge about the Programme. In West Bengal, however, none of the selected beneficiaries reported awareness of the Programme through the Forest Department. Other sources like fellow cultivators and relatives were reported by ten per cent and about 12 per cent of the beneficiary respectively. Mass-media like Radio, T.V., Newspapers etc. and the Block agency played no significant role in disseminating the knowledge of Social Forestry amongst the selected beneficiaries in so far as only three per cent and two

per cent respectively reported awareness of the Programme through such agencies. Statewise details are given at Annex 6.7.

6.7 With a view to testing their knowledge further the selected beneficiaries were asked as to what benefits, both immediate and future, they expected to flow from the Social Forestry Programme. Upto a maximum of three benefits were reported by each selected beneficiary. Three hundred eighty-three (87 per cent) sample beneficiaries reported about the prospects of availability of immediate employment through Social Forestry, whereas for 155 (35 per cent) the Programme ensured steady payment of wages at higher rate. Other benefits like absence of exploitation by employers and easy availability of fuelwood and fodder were reported by about ten per cent each of the selected beneficiaries. As for their knowledge about future benefits likely to accrue out of the Programme, 325 (76 per cent) reported easy availability of fuelwood and another 191 (45 per cent), easy availability of fodder. Two hundred nine (49 per cent) respon-

dents were also hopeful of better employment opportunities through the Programme. Statewise details are given at Annex 6.8.

#### *Changes in the sources of fuelwood, fodder and small timber*

6.8 In order to find out how far Social Forestry had brought about changes in the sources of availability of fuelwood, fodder and small timber to the selected beneficiaries, data were collected in course of the Evaluation Study. The data collected are given in the table below. It was observed that in all the States under-study there was practically no material change in the sources of fuelwood, fodder and small timber for the selected labour households who had worked on wage employment on Social Forestry. Some of the respondents had reported more than one source of fuelwood, fodder and small timber. The marginal difference in the number of the reporting respondents under different sources after introduction of the Social Forestry Programme could be attributed to reasons other than emergence of the

**Table 6.2 : Sources of fuelwood, fodder & small timber**

Item	Number reporting any source.	Before					After				
		Local market	Fields of employer/landlord	From near by forests	From pasture/grazing land	Others	Local market	Fields of employer/landlord	From near by forests	From pasture grazing land	Others
1	2	3	4	5	6	7	8	9	10	11	12
Fuelwood . . . . .	409	36 (8.8)	36 (8.8)	298 (72.9)	17 (4.1)	137 (33.4)	35 (8.6)	32 (7.8)	302 (73.8)	13 (3.2)	139 (34.0)
Fodder . . . . .	289	31 (10.7)	50 (17.3)	122 (42.2)	84 (29.1)	95 (32.9)	32 (11.1)	49 (17.0)	122 (42.2)	80 (27.7)	100 (34.6)
Small timber . . . . .	418	179 (42.8)	15 (3.6)	166 (39.7)	1 (0.2)	72 (17.2)	171 (40.9)	15 (3.6)	160 (38.3)	1 (0.2)	71 (17.0)

Figures in brackets are percentages to total in Col. 2.

Programme. The produce of the trees in the form of fuelwood, fodder and small timber had not yet started accruing to the selected beneficiaries to any appreciable extent so as to bring about substantial change in the sources from which their requirements were met earlier. Statewise details are given at Annexes 6.9 to 6.11.

#### *Distance travelled and person hours spent*

6.9 Procuring fuelwood from the outside sources was the main responsibility of the women family members of the selected beneficiaries, as brought out by the following data :

**Table 6.3 : Family members going out for procuring fuelwood and fodder.**

Item	Number reporting use of	Male member	Female member	Children	Other relatives
1	2	3	4	5	6
Fuelwood . . . . .	409	188 (46.0)	230 (56.2)	39 (9.5)	107 (26.2)
Fodder . . . . .	289	137 (47.4)	127 (43.9)	44 (15.2)	69 (23.9)

Figures in brackets are percentage to total in Col. 2

For some of the selected beneficiaries more than one family member reportedly went for fetching fuelwood and fodder. Women members normally procured fuelwood and fodder in as many as 56 per cent and 44 per cent of the selected households respectively. A little less than 50 per cent of the selected beneficiaries reported that the male members generally went out to fetch fuelwood and fodder. Other relatives in the family also procured fuelwood and fodder, as reported by about one-fourth of the selected beneficiaries, whereas role of the children in the family as main procurer of fuelwood and fodder was minimal. As for individual States, involvement of the female family members in the procurement of fuelwood was insignificant in Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir and Maharashtra. In the procurement of fodder also involvement of the female members was very negligible, as perceived in Bihar, Himachal Pradesh, Jammu and Kashmir, Karnataka and Maharashtra. Statewise picture is indicated at Annex. 6.12.

6.10 Distances trudged by the selected beneficiaries and their family members in search of fuelwood and

fodder are given in the table below :

**Table 6.4 Distance travelled for fetching Fuelwood and Fodder**

Item	Number reporting uses	Before			After		
		Less than one km.	between 1-3 kms.	Beyond 3 kms.	Less than one km.	Between 1-3 kms.	Beyond 3 kms.
1	2	3	4	5	6	7	8
For Fuelwood . . . . .	409	98 (24.0)	232 (56.7)	79 (19.3)	85 (20.8)	248 (60.6)	76 (18.6)
For Fodder . . . . .	289	106 (36.7)	147 (50.9)	36 (12.5)	96 (33.2)	159 (55.0)	34 (11.8)

Figures in brackets are percentages to total in Col. 2

The above data tend to show that Social Forestry had not so far brought about any material change in the average distance the family members of the selected beneficiaries had to travel for fetching fuelwood and fodder. Number of the selected beneficiaries each of whom trudged less than one km. marginally dropped by three per cent on average in each case from 98 and 106 beneficiaries for fuelwood and fodder respectively, before commencement of the Programme, to 85 and 96 respectively after the Programme was launched. However, number of the selected beneficiaries who had to trudge between one and three kms. for bringing fuelwood and fodder, increased by about four per cent in each case after the

commencement of the Programme. In Himachal Pradesh and Tamil Nadu number of the respondents who had to travel between one and three kms. for procuring fuelwood and fodder respectively, almost doubled after the Programme, whereas in other States number of the respondents as reported among the different distance groups before and after the Programme, more or less remained the same. State-wise data are given at Annex. 6.13.

6.11 The following table gives an account of the person-hours spent per week for procuring fuelwood and fodder.

**Table 6.5 : Person hours spent in a week for procuring fuelwood/fodder**

Item	Number reporting use	Before			After		
		upto 7 hrs.	7-15 hours	Beyond 15 hrs.	Upto 7 hrs.	7-15 hours	Beyond 15 hrs.
1	2	3	4	5	6	7	8
Fuelwood . . . . .	409	181 (44.2)	177 (43.3)	51 (12.5)	181 (44.2)	186 (45.5)	42 (10.3)
Fodder . . . . .	289	85 (29.4)	123 (42.6)	81 (28.0)	81 (23.0)	118 (40.8)	90 (31.1)

Figures in brackets are percentages to total in Col. 2

Of 409 selected beneficiaries reporting use of fuelwood, 51 (12 per cent) spent more than 15 hours in a week for meeting fuelwood requirement of the family before initiation of the Programme, as against 42 (ten per cent) after the Programme, a reduction of two per cent. However, number of the selected beneficiaries who worked between seven and fifteen hours per week for procuring fuelwood also increased by the same proportion after the Programme. Proportion on the selected beneficiaries who worked upto seven hours and between seven and fifteen hours on an average per week for procuring fodder before the Programme marginally dropped by one and two per cent respectively after the Programme, whereas number of the selected beneficiaries who worked beyond 15 hrs. per week for procuring fodder increased by three per cent after the Programme. The above data indicate that Social Forestry had not so far provided any relief to the selected beneficiaries from weekly drudgery they had to undergo for procuring fuelwood and fodder. Statewise details are given at Annex 6.14.

#### *Changes in supply of fuelwood, fodder and small timber*

6.12 Public plantation programme under Social Forestry had not so far ushered in any remarkable improvement in the availability of fuelwood, fodder and small timber to the selected landless labour beneficiaries as evident from the data given below :

**Table 6.6 : Improvement/deterioration in the supply of fuelwood' fodder & small timber.**

Item	Number reporting use	Number reported change in supply of	Number reported improvement in supply of	Number reported deterioration in supply of
1	2	3	4	5
Fuelwood . . . . .	409	38 (9.3)	22 (57.9)	10 (42.1)
Fodder . . . . .	289	38 (13.1)	26 (68.4)	12 (31.6)
Small Timber . . . . .	418	23 (5.5)	8 (34.8)	15 (65.2)

Figures in brackets in Col. 3 are percentages to total in Col. 2. Figures in brackets in Cols. 4 & 5 are percentages to total in Col. 3.

About nine per cent of the selected beneficiaries had reported change in the supply position of fuelwood. Similarly, proportion of the selected beneficiaries who had reported change in the availability of fodder and small timber for them also appeared to be quite insignificant, only about thirteen per cent and five per cent respectively. Of those reporting change in the supply of fuelwood 22 respondents (58 per cent) reported improvement and 16 (42%) deterioration. About two-thirds of the respondents reporting change in the supply of fodder consequent on the launching of the Social Forestry Programme, indicated improvement in the supply position and for about one-third the situation had further deteriorated. For small timber, 15 out of 23 (65 per cent), reporting change

in the supply position, indicated that the supply had further deteriorated and for eight (35 per cent) the position had improved.

*Difficulties faced, in meeting requirements of fuelwood, fodder and small timber*

6.13 About 40 per cent of the selected beneficiaries reporting use of fuelwood indicated that they could meet their requirement with difficulty and the situation had not improved even after the Programme was introduced. For fodder and small timber uses, proportion of the respondents reporting difficulty in meeting their requirement was about 30 per cent in each case. The data collected in course of the Evaluation study are as follows :

Table 6.7 ; Requirement of fuelwood, fodder and small timber met easily/with difficulty

Item	Number reporting use	Number reporting requirements met			
		Easily		With difficulty	
		Before	After	Before	After
1	2	3	4	5	6
Fuelwood	409	256 (62.6)	248 (60.6)	153 (37.4)	161 (39.4)
Fodder	289	202 (69.9)	197 (68.2)	87 (30.1)	92 (31.8)
Small Timber	418	271 (64.8)	287 (68.7)	147 (35.2)	131 (31.3)

Figures in brackets are percentages to total in Col. 2.

As regards difficulty faced in meeting requirement of fuelwood, more than 50 per cent of the respondents reported sources too far. Exploitation by the Forest guard was reported by about 18 per cent of the selected beneficiaries, reporting use of fuelwood, both before and after the Programme. Number of the selected beneficiaries reporting sources too far was quite high in Rajasthan and Uttar Pradesh, 19 (100 per cent) and 38 (68 per cent) respectively. In West Bengal 25 out of 33 (76 per cent) selected beneficiaries, reporting difficulty in meeting requirement of fuelwood also complained about exploitation by the Forest guard. Other major difficulty like owner cultivators did not permit to take fuelwood from their field was reported by 15 per cent of the respondents. For about two-thirds of the selected beneficiaries reporting difficulty faced in not getting fodder, the sources being too far and shrinkage in the area of common pasture/grazing land was reported by about 22 per cent of them. Statewise details are given at Annexes 6.15 to 6.17.

*Views about maintenance of public plantations*

6.14 To test the respondents' interest in public plantation programme, they were asked as to whether the plants were looked after properly. Of 440 selected beneficiaries 276 (63 per cent) reported that the plants were being looked after properly whereas for another 136 (31 per cent) the plants were not properly looked after. Only 28 (6 per cent) could not say anything specifically in this regard. In Haryana, Himachal Pradesh, Jammu & Kashmir and Karnataka, all the selected beneficiaries considered that the plants were being looked after properly, whereas in West Bengal

all the selected beneficiaries were of the opinion that the plants were not properly taken care of. In other States the response that plants were not looked after properly varied between 50 per cent in Bihar and Orissa and 18 per cent in Tamil Nadu. Ninety selected beneficiaries suggested that chowkidars should be engaged for proper maintenance of the plants. This suggestion was given by 100 per cent of the selected beneficiaries from Bihar and 94 per cent from West Bengal who had contended that the plants were not properly looked after. Other specific suggestions preferred for upkeep of the plants related to the need for convincing the villagers through extension work about usefulness of the plants on panchayat and public land (24 per cent), putting thorny sticks and brick girdles around the plants to protect it from being browsed by animals (17 per cent each) and involving school children in the plantation programme. State-wise details are given in the table at Annex 6.18.

6.15 Three hundred ninety-four (90 per cent) selected beneficiaries were aware that the public plantations on which they had worked were meant for the benefit of the whole community. Cent per cent awareness was perceived among the selected beneficiaries in Himachal Pradesh, Jammu & Kashmir, Maharashtra, Orissa, Rajasthan and West Bengal. Near full awareness was reported from Gujarat, Haryana, Bihar and Uttar Pradesh, whereas least awareness (15 per cent) amongst the selected beneficiaries was perceived in Andhra Pradesh. As for their concept of responsibility for proper upkeep of the plants on public land, 83 per cent reported that damage to the plants should be avoided. About 44 per cent thought that unauthorised cutting of trees or

branches should be stopped, whereas about 27 per cent considered it their duty to irrigate the plants as and when needed. Statewise details are given at Annex. 6.19.

6.16 The main agency employing labourers on Social Forestry plantations was either the Forest Department or the Social Forestry Organisation created within or outside the Forest Department to implement the Programme, in all States, except West Bengal, where local panchayats employed workers for raising plantations on panchayat office, school and hospital compounds. In all 82 per cent of the selected beneficiaries were employed directly by the Forest Department/Social Forestry Organisation, eight per cent by the local panchayats and 15 per cent by the contractors. Employment through the contractors was reported from Karnataka (57 per cent), Tamil Nadu (47 per cent) and Uttar Pradesh (33 per cent). The nature of work on which labour force was employed included digging of pits (70 per cent), planting (63 per cent), watering (19 per cent), putting inputs (10 per cent) and clearing of unwanted growth (seven per cent), besides other activities on which 104 (24 per cent) were engaged. About 17 per cent of the selected beneficiaries were employed on single type of job and the rest worked on more than one type. Statewise details are given at Annex 6.20.

6.17 All the selected beneficiaries were given proper instructions on the type of work they were required to undertake. The instructions were also considered useful by all of them. Forest Department/Social Forestry Organisation was the major agency which gave instructions to the workers, as reported by 86 per cent of the selected beneficiaries. Panchayats reportedly gave instructions to 18 (21 per cent) respondents in Uttar Pradesh, 15 (43 per cent) in West Bengal, besides one each in Bihar, Haryana, Himachal Pradesh and Rajasthan. Block participation was reported only by 20 (57 per cent) selected beneficiaries from West Bengal. Statewise details are brought out at Annex 6.21.

#### *Rate of wages paid for employment on public plantations*

6.18 The average daily wage rate for work on public plantations, as reported by the selected beneficiaries, taking all States together, was Rs. 8.59, vis-a-vis the minimum daily wage rate of Rs. 7.50 to Rs. 11.25 fixed by the Central Government. The average daily wage rate varied between Rs. 6.47, reported by the selected beneficiaries from Karnataka, to Rs. 13.20 reported from Gujarat. The minimum wage rate fixed

by the respective State Government<sup>1</sup> are given in brackets in Col. 3 of the table at Annex 6.22. As could be seen from the data that the selected beneficiaries from Bihar, Gujarat, Himachal Pradesh and Orissa received more as daily wage on Social Forestry than what was fixed under the Minimum Wages Act, whereas the selected beneficiaries from Andhra Pradesh, Haryana, Tamil Nadu and West Bengal were paid less than the minimum fixed under the Act. In four States—Karnataka, Maharashtra, Rajasthan and Uttar Pradesh—the daily wages reported by the selected beneficiaries were within the range fixed under the Minimum Wages Act. In Jammu & Kashmir the average wage paid was Rs. 10.20 per day where minimum wages were not fixed so far. The wage rate for employment on public plantations in no case ought to be less than that fixed under the Minimum Wages Act.

6.19 As regards frequency of payment, 43 per cent reported weekly payment, 23 per cent each monthly and fortnightly, and ten per cent daily. In West Bengal all the selected beneficiaries were paid on daily basis. Seven (21 per cent) selected beneficiaries from Tamil Nadu and one each from Gujarat and Himachal Pradesh also reported wage payment on daily basis. Wages were paid on weekly basis in Andhra Pradesh, Bihar, Karnataka, Maharashtra, Orissa, Tamil Nadu and Uttar Pradesh. Fortnightly wage payment was reported from Gujarat, Rajasthan & Uttar Pradesh, whereas in Haryana, Himachal Pradesh and Jammu & Kashmir wages were paid monthly. Three hundred sixty-nine (84 per cent) selected beneficiaries received wages in cash. Nineteen (47 per cent) from Bihar, one (two per cent) from Gujarat, forty (100 per cent) from Haryana and ten (29 per cent) from West Bengal received wages both in cash and kind.

#### *Generation of employment opportunities*

6.20 One of the cardinal objectives of the Social Forestry Programme was to generate additional employment opportunities for the rural poor through forestry activities. The main focus of the Evaluation study, as far as landless labour beneficiaries are concerned, was on the impact of the Programme in terms of generation of wage employment for the target group of population through plantation programme on public/panchayat land in and around the selected villages. Of 440 selected beneficiaries 256 or 58 per cent were employed on Social Forestry work in 1981-82, 353 (80 per cent) in 1982-83 and 211 (48 per cent) in 1983-84. Since the real test of any employment generation programme is its capacity to provide employment to unemployed and underemployed during lean period when chances of getting employment elsewhere

<sup>1</sup> Source—Ministry of Labour, Annual Report-1983-84



are virtually bleak, an attempt was made to assess how far wage employment on Social Forestry had been successful in mitigating hardship to the selected beneficiaries when no alternative employment was available. For that purpose data relating to the extent of alternative employment available, if any, for the select-

ed beneficiaries at the time they were employed on the Social Forestry Programme was collected in the course of the study. Since the Programme had started making real progress from 1981-82, employment data for the three years 1981-82 to 1983-84 are given in the following table :—

**Table 6.8 : Employment on Social Forestry and availability of alternative employment**

Year	Number employed on Social Forestry	Number reported alternative sources of employment available	Average Number of persondays of employment on Social Forestry in respect of those in Col. 2	Average number of persondays of employment on Social Forestry in respect of those in Col. 3.	Average number of persondays of alternative employment available in respect of those in Col. 3
	2	3	4	5	6
1981-82	256 (58.2)	207 (80.9)	110	132	83 (62.9)
1982-83	353 (80.2)	270 (76.5)	126	147	90 (61.2)
1983-84	211 (48.0)	169 (80.1)	147	173	107 (61.8)

(i) The figures in brackets are percentages.

(ii) The percentages under Col.2 are in respect of total number of selected households i.e.440 —

(iii) Percentage under Col. 3 are in relation to Col. 2.

(iv) Percentages under Col. 6 are in relation to Col. 5.

6.21 It is evident from the above data that although 256 selected beneficiaries were employed for some period on Social Forestry during 1981-82, 207 (81 per cent) reported alternative sources of employment available and 49 (19 per cent) would have remained without any employment but for wage employment on Social Forestry. During 1982-83 and 1983-84, 353 and 211 sample beneficiaries respectively had been employed on Social Forestry. Out of them 270 (76 per cent) and 169 (80 per cent) reported alternative sources of employment available while they were employed on Social Forestry, during 1982-83 and 1983-84 respectively.

#### *Alternative employment opportunities available*

6.22 Each of the selected beneficiaries reporting alternative source of employment available during 1981-82 had worked on Social Forestry for 132 days on average, whereas for them alternative employment was available for 83 days each during the period they were employed on Social Forestry. The plantation programme on public-panchayat land appeared to have provided 49 days extra wage employment on an average to each of such selected beneficiaries which was about 60 per cent more than the quantum of alternative employment available elsewhere, at a time when no other wage employment was available. The employment provided by Social Forestry, as reported by the selected beneficiaries during 1982-83 and 1983-84 also reflected more or less the same incremental employment generation over quantum of alternative employment generation otherwise available elsewhere at that time. Based on the data for the three years under reference it could be inferred that but for the Social Forestry

Programme the selected beneficiaries would have remained gainfully employed through alternative employment elsewhere, to the extent of about 60 per cent of the period they were employed through Social Forestry, in each of the years 1981-82 to 1983-84. Statewise details are given in the tables at Annexes 6.23 to 6.25.

6.23 Looking across the States, the extent of availability of alternative sources of employment during the period of employment on Social Forestry, yearwise, in terms of percentage to total employment on social forestry, as reported by the selected beneficiaries are as follows :—

**Table 6.9 : Alternative sources of employment available as percentages to total employment on Social Forestry.**

State	1981-82	1982-83	1983-84
1	2	3	4
1. Andhra Pradesh	—	54.6	37.9
2. Bihar	32.2	44.5	46.9
3. Gujarat	66.8	66.3	53.0
4. Haryana	91.9	91.7	91.6
5. Himachal Pradesh	14.6	15.3	19.6
6. Jammu & Kashmir	—	36.8	46.7
7. Karnataka	83.1	64.3	69.0
8. Maharashtra	—	100.0	100.0
9. Orissa	26.7	—	—
10. Rajasthan	18.3	31.6	31.3
11. Tamil Nadu	55.7	55.3	57.2
12. Uttar Pradesh	76.8	68.4	71.8
13. West Bengal	100.0	—	—
All States	63.2	61.3	61.6



The higher the percentages indicated in the table above the less was the impact of the Social Forestry Programme in terms of generation of additional employment for the selected beneficiaries at a time when no alternative employment was available. During 1981-82 Social Forestry did not provide employment to the selected beneficiaries from Andhra Pradesh, Jammu & Kashmir and Maharashtra, whereas the selected beneficiaries from West Bengal had reported that alternative sources of employment were available for all the days they worked on Social Forestry. In that year the selected beneficiaries from Himachal Pradesh, Rajasthan and Orissa derived maximum benefit of wage employment through Social Forestry in so far as alternative employment to the extent of only about 15 per cent, 18 per cent and 27 per cent respectively of total period of employment on Social Forestry was available for them, during the period they were employed on Social Forestry. Or, in other words, they would have remained unemployed for about 85 per cent, 82 per cent and 73 per cent respectively of the period of their employment on Social Forestry, had they got no work through Social Forestry. In other States, ratio of employment generation out of Social Forestry ranged between 23 per cent in Uttar Pradesh and 68 per cent in Bihar. During 1982-83 generation of maximum employment benefit was reported by the selected beneficiaries from Himachal Pradesh for whom alternative employment was available only to the extent of about 15 per cent of the period of employment on Social Forestry. In other States the extent of alternative employment available during the period of employment on Social Forestry varied between 32 per cent in Rajasthan to 100 per cent in Maharashtra. Almost similar trend was perceived amongst the States during 1983-84.

6.24 The selected beneficiaries from Himachal Pradesh derived maximum employment benefit out of Social Forestry as prospects of getting alternative employment was reported to be very dim during each of the years 1981-82 to 1983-84. Employment benefit through Social Forestry was also reported to be quite substantial by the selected beneficiaries from Orissa during 1981-82, Bihar and Rajasthan during all three years and Jammu & Kashmir during 1982-83 and 1983-84. For the selected beneficiaries from Maharashtra (for 1982-83 & 1983-84) and West Bengal (for 1981-82) the programme, however, did not bring forth any impact in terms of generation of additional employment opportunities. They reported availability of alternative sources of employment elsewhere for the whole period they worked on

Social Forestry. However, five (14 per cent) selected beneficiaries from West Bengal who worked on Social Forestry during 1982-83 reported no alternative sources of employment. The selected beneficiaries from Haryana also had marginal employment opportunities, about eight per cent every year, through Social Forestry Programme. In Karnataka Social Forestry generated additional employment opportunities for the selected beneficiaries to the tune of 36 per cent and 31 per cent in 1982-83 and 1983-84 respectively. In Uttar Pradesh Social Forestry provided about 23 per cent to 32 per cent extra employment every year to the selected beneficiaries.

#### *Reasons for preferring wage employment on public plantations*

6.25 As indicated in the preceding paragraphs, alternative employment opportunities were available to about 80 per cent of the selected beneficiaries who worked on wage employment on Social Forestry during each of the years 1981-82 to 1983-84. Altogether 334 selected beneficiaries who worked on public plantation reported that alternative sources of employment were available for the period they were employed on Social Forestry. The selected beneficiaries gave upto a maximum of three major reasons for taking up wage employment on social Forestry when alternative sources of employment were available. The reasons given are as follows :—

Table 6.10 Reasons for working on Public Plantations.

Reasons	Number replied	percentage to Total number working on public plantations
1	2	3
1. Employment easily available	158	47.3
2. Near to their place of residence	159	47.6
3. Better wages . . . . .	134	40.1
4. Less tire some . . . . .	132	39.5
5. Prompt payment . . . . .	86	25.8
6. Others . . . . .	76	22.8

Nearly 50 per cent of the beneficiaries had chosen to work on Social Forestry plantations because employment was easily available and that too, near their place of residence. One hundred thirty four respondents (40 per cent) reported better wage payment

for work on Social Forestry. For 132 selected beneficiaries (40 per cent) employment on the Social Forestry was less tiresome, whereas prompt wage payment as one of the major reasons for preferring work on Social Forestry was given by 86 (26 per cent) selected beneficiaries. As for individual States, all beneficiaries from Andhra Pradesh, Bihar and Karnataka reported that they had taken up employment on Social Forestry because wage rate was better. All sample beneficiaries, reporting availability of alternative sources of employment, from Jammu & Kashmir and Karnataka also reported that they preferred employment on Social Forestry since the work sites were nearer to their place of residence. Prompt payment was reported by 90 per cent of the sample beneficiaries from Haryana and 60 per cent from Andhra Pradesh. Employment on Social Forestry was reported to be less tiresome by 77 per cent of the sample beneficiaries from Haryana, 73 per cent from Gujarat and 65 per cent from Rajasthan. Easy availability of employment on Social Forestry was reported by as high as 100 per cent from Karnataka and as low as four per cent from Tamil Nadu. Statewise details are given at Annex. 6.26.

#### *Generation of additional wage income*

6.26 Average wage income from public plantations and other sources, as reported by the selected beneficiaries during each of the year 1981-82 to 1983-84 are as follows :—

**Table 6.11 : Average wage income from Social Forestry and other sources.**

Year	Number of selected beneficiaries worked on Social Forestry	Average wage income from social Forestry (Rs.)	Average wage income from all sources (Rs.)	% of Col. 3 to Col. 4
1	2	3	4	5
1981-82	256	871	3180	27.39
1982-83	353	1027	3578	28.70
1983-84	211	1238	3853	32.13

Taking all States together, on an average each selected beneficiary earned Rs. 871 during 1981-82

through wage employment on Social Forestry against Rs. 1027 and Rs. 1238 earned during each of the succeeding two years respectively. During 1981-82 wage income from Social Forestry contributed to 27 per cent of total wage income from all sources. Also proportions of wage income during 1982-83 through Social Forestry to total income for each of 353 selected landless labour households who worked on public plantations was more or less the same, whereas during 1983-84 the contribution of Social Forestry to total income was 32 per cent for each of 211 selected beneficiaries given employment on public plantations. Statewise details are given at Annex 6.27.

6.27 Social Forestry generated maximum wage income for the selected beneficiaries in Haryana in all the years, whereas the Programme generated least wage income for the selected beneficiaries in West Bengal, hardly two per cent during each of 1981-82 and 1982-83. During 1983-84 no wage employment on Social Forestry was reported by the selected beneficiaries from this State. Among other States where public plantations generated fairly substantial wage income for the selected beneficiaries, were, Bihar, Gujarat, Himachal Pradesh and Karnataka. In Bihar generation of average income through Social Forestry increased from 30 per cent in 1981-82 to 43 per cent and 46 per cent in 1982-83 and 1983-84 respectively. In Gujarat, Social Forestry generated 40 per cent of the income for each of (24 (62 per cent) sample beneficiaries who worked on public plantations during 1982-83 vis-a-vis. 31 per cent for each of 39 (100 per cent) selected beneficiaries during 1981-82. However, only nine (23 per cent) selected beneficiaries were employed on Social Forestry during 1983-84 and ratio of income generation through social forestry slipped back to 35 per cent. In Uttar Pradesh public plantations provided wage income of about nine per cent during 1981-82 and 1982-83 and about six per cent during 1983-84. All the selected beneficiaries were employed on Social Forestry during 1982-83 as against 30 (35 per cent) and 34 (40 per cent) during 1981-82 & 1983-84 respectively. In Orissa where work on public plantation appeared to have generated seven per cent of wage income during 1981-82 only, the figures are not dependable in view of very small number of the sample beneficiaries from the State. In Tamil Nadu and West Bengal number of the selected beneficiaries who worked on public plantations dropped very much during 1982-83 and 1983-84, vis-a-vis the number employed during 1981-82.

*Changes in monthly expenditure on fuelwood, fodder and small timber*

6.28 Number of the selected beneficiaries reporting changes in the monthly expenditure levels of fuelwood, fodder and small timber are as follows :—

Table 6-12 : Changes in monthly expenditure level

Item	Number reporting use	No change in monthly expenditure level	Increase in expenditure level	Decrease in expenditure level
1	2	3	4	5
(i) Fuelwood	409	351 (85.82)	50 (12.22)	8 (1.96)
(ii) Fodder	289	251 (86.85)	32 (11.07)	6 (2.08)
(iii) Small timber	418	326 (77.99)	86 (20.57)	6 (1.43)

Figures in brackets are percentages to total in Col.2

Eighty six per cent of the selected beneficiaries reporting use of fuelwood had indicated no change in their monthly expenditure following introduction of Social Forestry Programme, whereas monthly expenditure had reportedly increased for 12 per cent of the selected beneficiaries numbering 50. Eight respondents (two per cent) had reported decrease in the expenditure on fuelwood. As for fodder, no change in the expenditure level was reported by 87 per cent of the sample beneficiaries. Increase in the monthly expenditure on fodder was reported by eleven per cent and only two per cent reported decrease in the monthly expenditure level. For small timber, no change in the expenditure level was reported by 78 per cent of the sample beneficiaries. Very few, only six, had reported decrease in the monthly expenditure on small timber, whereas for another 86 (21 per cent) the expenditure had reportedly increased. Statewise details are given at Annex 6.28.

*Arrangements for distribution of the produce of public plantations*

6.29 The plantations on public/panchayat land were at a nascent stage and the Evaluation study revealed that the produce had not yet started materialising to any significant extent. No working arrangements worth mentioning for distribution/disposal of the produce was devised and followed in most of the States. However, in a few States where distribution/disposal

of the produce of plantations on public/panchayat land had started to some extent the selected beneficiaries gave their reactions to the systems followed. All the selected beneficiaries from Haryana opined that the produce were collected and sold, whereas some of the respondents from other States reported that anyone could use the produce. For small timber use, about 50 per cent of the respondents from Gujarat reported that the plants were given to them on ownership basis.

*Views on implementation of the Programme*

6.30 Two hundred seventeen (50 per cent) respondents were of the view that the Programme was not being implemented properly, out of which 101 (47 per cent) reported that the Programme of public plantations suffered due to lack of protective measures. According to 90 (41 per cent) selected beneficiaries, plantations withered for lack of irrigation facilities. All of them wanted irrigation facilities to be provided. For effecting improvement in public plantation Programme, 92 (42 per cent) respondents suggested that physical protective measures be taken. Watchman should be appointed for proper maintenance of the plants, as suggested by 59 (27 per cent) respondents and 50 (23 per cent) were in favour of replacing dead plants. However, 36 selected beneficiaries, 19 (73 per cent) from Gujarat, five (71 per cent) from Karnataka, eleven (58 per cent) from Tamil Nadu and one (14 per cent) from Andhra Pradesh, who were of the opinion that the Programme was not being implemented properly could not assign any reasons as to what was wrong with its implementation. Neither could they offer any suggestions for bringing about improvement in the programme implementation. Statewise details are given at Annex 6.29.

6.31 The goal of generation of additional employment opportunities for rural poor through plantation programme on public and panchayat land did not achieve results to the desired extent in so far as only in nine per cent of 256 selected villages, public plantation programme was taken up. In most of the States, panchayats practically played very little role in initiating plantation programme on community land. Whatever little progress was achieved in this respect was mainly through the efforts of the official agencies. For getting five sample beneficiaries per village, in case the required number was not available in the selected villages, the sampling design was modified for selection of other landless labour households within a radius of five to eight kms. from the selected villages, who had worked on wage employment on any public plantation programme. Even with such relaxation in the sampling procedure, only 440 landless labour

households could be selected against the expected sample size of 1280, about 34 per cent. Employment under the Programme contributed to 27 per cent to 32 per cent of total wage income to the selected beneficiaries who had worked on public plantations, during each of the three years 1981-82 to 1983-84, maxi-

mum number (80 per cent) being employed during 1982-83. Each of the selected beneficiaries working on public plantation during 1983-84 remained employed for longer period, 147 persondays, as against 126 and 110 persondays during 1982-83 and 1981-82 respectively.



Distribution of landless labour beneficiaries according to sex, Age, Literacy and social groups.

State	Number of benefi- ciaries selected	Sex		Age Groups			
		Male	Female	Upto 25 years	Above 25 years & upto 35 years.	Above 35 years and upto 50 years	Above 50 years
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	20	10 (50.00)	10 (50.00)	7 (35.00)	4 (20.00)	8 (40.00)	1 (5.00)
2. Bihar . . . . .	40	40 (100.00)	—	15 (37.50)	14 (35.00)	11 (27.50)	—
3. Gujarat . . . . .	39	28 (71.79)	11 (28.21)	12 (30.77)	10 (25.64)	13 (33.33)	4 (10.26)
4. Haryana . . . . .	40	40 (100.00)	—	13 (32.50)	15 (37.50)	12 (30.00)	—
5. Himachal Pradesh . . . . .	27	26 (96.30)	1 (3.70)	12 (44.44)	5 (18.52)	7 (25.93)	3 (11.11)
6. Jammu & Kashmir . . . . .	28	28 (100.00)	—	16 (57.14)	4 (14.29)	6 (21.43)	2 (7.14)
7. Karnataka . . . . .	35	21 (60.00)	14 (40.00)	9 (25.71)	21 (60.00)	4 (11.43)	1 (2.86)
8. Maharashtra . . . . .	23	17 (73.91)	6 (26.09)	14 (60.87)	3 (13.04)	6 (26.09)	—
9. Orissa . . . . .	2	2 (100.00)	—	—	—	1 (50.00)	1 (50.00)
10. Rajasthan . . . . .	32	29 (90.63)	3 (9.38)	18 (56.25)	6 (18.75)	8 (25.00)	—
11. Tamil Nadu . . . . .	34	32 (94.12)	2 (5.88)	8 (23.53)	15 (44.11)	7 (20.59)	4 (11.76)
12. Uttar Pradesh . . . . .	85	82 (96.47)	3 (3.53)	36 (42.35)	27 (31.76)	16 (18.82)	6 (7.06)
13. West Bengal . . . . .	35	35 (100.00)	—	9 (25.71)	10 (28.57)	12 (34.29)	4 (11.43)
All States . . . . .	440 (100.00)	390 (88.64)	50 (11.36)	169 (38.41)	134 (30.45)	111 (25.23)	26 (5.91)

Note : Figures in brackets indicate percentages to total in Col. 2.

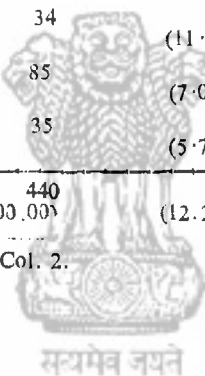
State	Literary Standards				Social Groups			
	Illiterate	Literate but below Primary	Primary and up to Matric	Others	Schd. Castes	Schd. Tribes	Backward castes	Others
1	9	10	11	12	13	14	15	16
1. Andhra Pradesh . . . . .	16 (80.00)	4 (20.00)	—	—	3 (15.00)	—	11 (55.00)	6 (30.00)
2. Bihar . . . . .	36 (90.00)	3 (7.50)	1 (2.50)	—	7 (17.50)	30 (75.00)	3 (7.50)	—
3. Gujarat . . . . .	24 (61.54)	10 (25.64)	5 (12.82)	—	20 (51.28)	—	8 (20.51)	11 (28.21)
4. Haryana . . . . .	20 (50.00)	8 (20.00)	12 (30.00)	—	29 (72.50)	1 (2.50)	6 (15.00)	4 (10.00)
5. Himachal Pradesh . . . . .	12 (44.44)	2 (7.41)	13 (48.15)	—	11 (40.74)	—	2 (7.41)	14 (51.85)
6. Jammu & Kashmir . . . . .	15 (53.51)	2 (7.14)	9 (32.14)	2 (7.14)	—	—	—	28 (100.00)
7. Karnataka . . . . .	30 (85.71)	3 (8.57)	2 (5.71)	—	16 (45.71)	—	19 (54.29)	—
8. Maharashtra . . . . .	9 (39.13)	2 (8.70)	12 (52.17)	—	3 (13.04)	2 (8.70)	5 (21.74)	13 (56.52)
9. Orissa . . . . .	2 (100.00)	—	—	—	—	—	—	2 (100.00)
10. Rajasthan . . . . .	23 (71.88)	3 (9.38)	6 (18.15)	—	11 (34.38)	13 (40.63)	—	8 (25.00)
11. Tamil Nadu . . . . .	18 (52.94)	12 (35.29)	4 (11.76)	—	11 (32.35)	—	23 (67.65)	—
12. Uttar Pradesh . . . . .	51 (60.00)	18 (21.18)	16 (18.82)	—	28 (32.94)	—	20 (23.53)	37 (43.53)
13. West Bengal . . . . .	22 (62.88)	3 (8.57)	10 (28.57)	—	17 (48.57)	12 (34.29)	—	6 (17.14)
All States . . . . .	278 (63.18)	70 (15.91)	90 (20.45)	2 (0.45)	156 (35.45)	58 (13.18)	97 (22.05)	129 (29.32)

Note : Figures in brackets indicate percentages to total in Col. 2

## Distribution of landless labour beneficiaries according to principal occupations

State	Number of beneficiaries selected	Mainly cultivators	Agricultural labour	Non-Agril labour (unskilled)	Others
1	2	3	4	5	6
1. Andhra Pradesh . . . . .	20	2 (10.00)	12 (60.00)	—	6 (30.00)
2. Bihar . . . . .	40	—	1 (2.50)	38 (95.00)	1 (2.50)
3. Gujarat . . . . .	39	—	21 (53.85)	13 (33.33)	5 (12.82)
4. Haryana . . . . .	40	—	1 (2.50)	39 (97.50)	—
5. Himachal Pradesh . . . . .	27	5 (18.52)	2 (7.41)	19 (70.37)	1 (3.70)
6. Jammu & Kashmir . . . . .	28	21 (75.00)	—	2 (7.14)	5 (17.86)
7. Karnataka . . . . .	35	—	34 (97.14)	—	1 (2.86)
8. Maharashtra . . . . .	23	6 (26.09)	16 (69.56)	—	1 (4.35)
9. Orissa . . . . .	2	—	—	2 100.00)	—
10. Rajasthan . . . . .	32	8 (25.00)	1 (3.13)	18 (56.25)	5 (15.63)
11. Tamil Nadu . . . . .	34	4 (11.76)	30 (88.24)	—	—
12. Uttar Pradesh . . . . .	85	6 (7.06)	18 (21.18)	55 (64.71)	6 (7.06)
13. West Bengal . . . . .	35	2 (5.71)	32 (91.43)	—	1 (2.86)
All States	440 (100.00)	54 (12.27)	168 (38.18)	186 (42.27)	32 (7.28)

Note : Figures in brackets indicate percentages to total in Col. 2.



## Distribution of landless labour beneficiaries according to subsidiary occupations.

State	Number of beneficiaries selected	Cultivation owner/tenant	Agrl. labour	Non-agrl. labour	Dairy farming	Cattle rearing	Others
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	20	4 (20.00)	7 (35.00)	3 (15.00)	—	—	3 (15.00)
2. Bihar . . . . .	40	—	37 (92.5)	2 (5.00)	—	—	1 (2.50)
3. Gujarat . . . . .	39	5 (12.82)	1 (2.56)	13 (33.33)	—	—	2 (5.13)
4. Haryana . . . . .	40	—	19 (47.50)	—	17 (42.50)	3 (7.50)	1 (2.50)
5. Himachal Pradesh . . . . .	27	10 (37.04)	—	8 (29.63)	—	—	1 (3.70)
6. Jammu & Kashmir . . . . .	28	6 (21.43)	—	15 (53.57)	—	1 (3.57)	3 (10.71)
7. Karnataka . . . . .	35	28 (80.00)	—	4 (11.43)	—	—	—
8. Maharashtra . . . . .	23	—	7 (30.43)	—	2 (8.69)	—	—
9. Orissa . . . . .	2	—	2 (100.00)	—	—	—	—
10. Rajasthan . . . . .	32	15 (46.88)	2 (6.25)	10 (31.25)	—	5 (15.63)	—
11. Tamil Nadu . . . . .	34	—	4 (11.76)	—	—	—	—
12. Uttar Pradesh . . . . .	85	18 (21.18)	10 (11.76)	16 (18.82)	—	1 (1.18)	1 (1.18)
13. West Bengal . . . . .	35	10 (28.57)	2 (5.71)	—	—	—	—
All States . . . . .	440	96 (21.82)	91 (20.68)	71 (16.14)	19 (4.32)	10 (2.27)	12 (2.72)

Note : Figures in brackets indicate percentages to total in Col. 2.

सत्यमेव जयते



## Employment on different sites

State	Number of benefi- ciaries selected	Number reporting employment on					
		Panchayat	Road side	Along Rly. Track	Canal site	Tank bed	Others
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	20	—	10 (50·00)	—	—	—	10 (50·00)
2. Bihar . . . . .	40	—	40 (100·00)	—	—	—	5 (12·50)
3. Gujarat . . . . .	39	—	39 (100·00)	—	—	—	—
4. Haryana . . . . .	40	—	40 (100·00)	18 (45·00)	2 (5·00)	—	—
5. Himachal Pradesh . . . . .	27	—	5 (18·52)	—	—	—	27 (100·00)
6. Jammu & Kashmir . . . . .	28	—	12 (42·86)	—	20 (71·43)	—	5 (17·86)
7. Karnataka . . . . .	35	—	5 (14·29)	—	—	11 (31·43)	31 (88·57)
8. Maharashtra . . . . .	23	—	20 (86·96)	—	—	—	3 (13·04)
9. Orissa . . . . .	2	—	—	—	—	—	2 (100·00)
10. Rajasthan . . . . .	32	6 (18·75)	28 (87·50)	—	—	—	—
11. Tamil Nadu . . . . .	34	22 (64·71)	3 (8·82)	—	5 (14·71)	—	4 (11·76)
12. Uttar Pradesh . . . . .	85	80 (94·12)	14 (16·47)	—	—	—	9 (10·59)
13. West Bengal . . . . .	35	—	20 (57·14)	—	—	5 (14·29)	30 (85·71)
All States . . . . .	440	108 (24·55)	236 (53·64)	18 (4·09)	27 (6·14)	16 (3·64)	126 (28·64)

Note : Figures in brackets are percentages to total in Col. 2.

सत्यमेव जयते

## Years of first and subsequent employment

State	Number employed in one year			Number employed in first year and subsequent year			Yearwise Total			Total number of selected beneficiaries
	1980-81	1981-82	1982-83	1980-81	1981-82	1982-83	1980-81	1981-82	1982-83	
	1	2	3	4	5	6	7	8	9	
1. Andhra Pradesh .	—	—	16 (80.00)	—	—	4 (20.00)	—	—	20 (100.00)	20
2. Bihar .	—	—	4 (10.00)	—	20 (50.00)	16 (40.00)	—	20 (50.00)	20 (50.00)	40
3. Gujarat .	—	2 (5.13)	—	12 (30.77)	25 (64.10)	—	12 (30.77)	27 (69.23)	—	39
4. Haryana .	—	—	—	7 (17.50)	33 (82.50)	—	7 (17.50)	33 (82.50)	—	40
5. Himachal Pradesh	—	—	—	11 (40.74)	16 (59.26)	—	11 (40.74)	16 (59.26)	—	27
6. Jammu & Kashmir	—	—	16 (57.14)	—	—	12 (42.86)	—	—	28 (100.00)	28
7. Karnataka .	—	5 (14.28)	5 (14.28)	—	20 (57.14)	5 (14.28)	—	25 (71.43)	10 (28.57)	35
8. Maharashtra .	—	—	11 (47.83)	—	—	12 (52.17)	—	—	23 (100.00)	23
9. Orissa .	—	2 (100.00)	—	—	—	—	—	2 (100.00)	—	2
10. Rajasthan .	—	—	15 (46.87)	4 (12.50)	1 (3.12)	12 (37.50)	4 (12.50)	1 (3.12)	27 (84.37)	32
11. Tamil Nadu .	—	29 (76.47)	—	—	5 (14.70)	—	—	34 (100.00)	—	34
12. Uttar Pradesh .	—	—	31 (36.47)	—	30 (35.29)	24 (28.23)	—	30 (35.29)	55 (64.71)	85
13. West Bengal .	—	30 (85.71)	—	—	5 (14.28)	—	—	35 (100.00)	—	35
All States .	—	68 (15.4)	98 (22.3)	34 (7.7)	155 (35.2)	85 (19.3)	34 (7.7)	223 (50.7)	183 (41.6)	440

Note: Figures in brackets are percentages to total in Col. 11.

## Proportion of male/female family members employed on Social Forestry

Percentage of adult family members employed on Social Forestry												
State	Male						Female					
	House- hold Repor- ting Male Adult	Less than 25 %	25 to less than 50 %	50 to less than 75 %	75 to less than 100 %	100 %	House- hold Repor- ting Female Adult	Less than 25 %	25 to less than 50 %	50 to less than 75 %	75 to less than 100 %	100 %
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Andhra Pradesh	18	—	4 (22.22)	4 (22.22)	—	8 (44.44)	20	—	—	9 (45.00)	—	3 (15.00)
2. Bihar	40	—	2 (5.00)	10 (25.00)	—	28 (70.00)	39	—	—	7 (17.95)	—	3 (7.69)
3. Gujarat	38	2 (5.26)	3 (7.89)	5 (13.16)	—	22 (57.89)	38	—	3 (7.89)	5 (13.16)	—	8 (21.05)
4. Haryana	40	—	3 (7.50)	19 (47.50)	—	18 (45.00)	40	—	—	—	—	5 (12.50)
5. Himachal Pradesh	26	—	6 (23.08)	9 (34.62)	—	11 (42.31)	26	—	—	—	—	1 (3.85)
6. Jammu & Kashmir	28	4 (14.29)	9 (32.14)	8 (28.57)	—	7 (25.00)	25	—	—	—	—	—
7. Karnataka	34	—	2 (5.88)	6 (17.65)	1 (2.94)	15 (44.12)	35	—	2 (5.71)	10 (28.57)	—	8 (22.86)
8. Maharashtra	23	—	5 (21.74)	7 (30.43)	—	8 (34.78)	20	1 (5.00)	2 (10.00)	4 (20.00)	—	6 (30.00)
9. Orissa	2	—	—	1 (50.00)	—	1 (50.00)	2	—	—	—	—	—
10. Rajasthan	32	—	11 (34.38)	11 (34.38)	—	7 (21.88)	32	—	1 (3.13)	2 (6.25)	—	2 (6.25)
11. Tamil Nadu	34	1 (2.94)	4 (11.76)	8 (23.53)	—	20 (58.82)	32	—	—	4 (12.50)	—	5 (15.63)
12. Uttar Pradesh	85	—	9 (10.59)	23 (32.94)	—	45 (52.94)	84	—	1 (1.19)	—	—	2 (2.38)
13. West Bengal	35	—	5 (14.29)	10 (28.57)	1 (2.86)	19 (54.29)	33	—	—	3 (9.09)	—	3 (9.09)
All States	435	7 (1.61)	63 (14.48)	126 (28.97)	2 (0.46)	209 (48.05)	426	1 (0.23)	9 (2.11)	44 (10.33)	—	46 (10.80)

Note : Figures in brackets in Cols. 3 to 7 are percentages to total in Col. 2.  
 Figures in brackets in Col. 9 to 13 are percentages to total in Col. 8.

## Awareness of the programme, the sites of plantations and sources of knowledge about the programme

State	No. of selected beneficiaries	No. reporting		No. reporting the places where Plantation had been done.				
		Aware-ness	No awa-ress	Pancha-yat land	Private land	Road side	Canal side	Others
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh	20	20 (100.00)	—	—	—	10 (50.00)	—	10 (50.00)
2. Bihar	40	40 (100.00)	—	—	24 (60.00)	40 (100.00)	—	5 (12.50)
3. Gujarat	39	39 (100.00)	—	—	1 (2.56)	37 (94.87)	—	1 (2.56)
4. Haryana	40	40 (100.00)	—	—	—	40 (100.00)	18 (45.00)	3 (7.50)
5. Himachal Pradesh	27	27 (100.00)	—	—	—	5 (18.52)	—	27 (100.00)
6. Jammu & Kashmir	28	28 (100.00)	—	1 (3.57)	—	20 (71.43)	—	26 (92.86)
7. Karnataka	35	35 (100.00)	—	—	20 (57.14)	8 (22.86)	—	35 (100.00)
8. Maharashtra	23	23 (100.00)	—	—	—	20 (86.96)	—	3 (13.04)
9. Orissa	2	2 (100.00)	—	—	—	—	—	2 (100.00)
10. Rajasthan	32	32 (100.00)	—	17 (53.13)	14 (43.75)	31 (96.88)	—	—
11. Tamil Nadu	34	34 (100.00)	—	22 (64.71)	—	3 (8.82)	—	9 (26.47)
12. Uttar Pradesh	85	85 (100.00)	—	85 (100.00)	16 (18.82)	57 (67.06)	2 (2.35)	11 (12.94)
13. West Bengal	35	35 (100.00)	—	—	6 (17.14)	14 (40.00)	—	35 (100.00)
All States	440	440 (100.00)	—	125 (28.41)	81 (18.41)	285 (64.77)	20 (4.55)	167 (37.95)

State	No. reporting sources of knowledge						
	Radio TV/News-papers	Pancha-yat/handouts	Block Agency	Forest Department	Fellow villagers	Relations	Others
1	10	11	12	13	14	15	16
1. Andhra Pradesh	—	—	—	20 (100.00)	—	—	—
2. Bihar	—	10 (25.00)	—	38 (95.00)	7 (17.50)	11 (27.50)	14 (35.00)
3. Gujarat	—	—	1 (2.56)	35 (89.74)	6 (15.38)	—	2 (5.13)
4. Haryana	—	—	—	33 (82.50)	—	11 (27.50)	3 (7.50)
5. Himachal Pradesh	—	—	—	27 (100.00)	—	—	—
6. Jammu & Kashmir	7 (25.00)	—	—	27 (96.43)	—	2 (7.14)	—
7. Karnataka	—	—	—	35 (100.00)	14 (40.00)	9 (25.71)	21 (60.00)
8. Maharashtra	—	—	—	22 (95.65)	—	—	1 (4.35)
9. Orissa	—	—	—	2 (100.00)	—	—	—
10. Rajasthan	1 (3.13)	—	2 (6.25)	25 (78.13)	9 (28.13)	9 (28.13)	18 (56.25)
11. Tamil Nadu	—	—	—	21 (61.76)	—	2 (5.88)	14 (41.18)
12. Uttar Pradesh	5 (5.88)	—	—	79 (92.94)	8 (9.41)	7 (8.24)	20 (23.53)
13. West Bengal	—	—	5 (14.29)	—	—	—	30 (85.71)
All States	13 (2.95)	10 (2.27)	8 (1.82)	364 (82.73)	44 (10.00)	51 (11.59)	123 (27.95)

Note : Figures in brackets are percentages to total in Col. 2.

## Benefits accrued and likely to accrue in future.

State	No. of selected Beneficiaries	No. reporting benefits		No. reporting type of benefits accruing					
		Accruing	Not accruing	Immediate availability of employment	Higher wages and regular payment	No exploitation	Fuel wood easily available	Fodder easily available	Others
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh . . . . .	20	20 (100·00)	—	11 (55·00)	20 (100·00)	1 (5·00)	1 (5·00)	—	1 (5·00)
2. Bihar . . . . .	40	40 (100·00)	—	26 (65·00)	19 (47·50)	—	—	—	—
3. Gujarat . . . . .	39	39 (100·00)	—	36 (92·31)	17 (43·59)	6 (15·38)	11 (28·21)	—	9 (23·08)
4. Haryana . . . . .	40	40 (100·00)	—	37 (92·50)	21 (52·50)	5 (12·50)	—	—	—
5. Himachal Pradesh . . . . .	27	27 (100·00)	—	25 (92·59)	1 (3·70)	—	16 (59·26)	20 (74·07)	2 (7·41)
6. Jammu & Kashmir . . . . .	28	28 (100·00)	—	28 (100·00)	—	—	—	—	1 (3·57)
7. Karnataka . . . . .	35	35 (100·00)	—	34 (97·14)	25 (71·43)	6 (7·14)	6 (7·14)	—	2 (5·71)
8. Maharashtra . . . . .	23	23 (100·00)	—	21 (91·30)	8 (34·78)	5 (21·74)	3 (13·04)	—	2 (8·70)
9. Orissa . . . . .	2	2 (100·00)	—	2 (100·00)	—	—	—	—	—
10. Rajasthan . . . . .	32	32 (100·00)	—	28 (87·50)	12 (37·50)	15 (46·88)	1 (3·13)	10 (31·25)	4 (12·50)
11. Tamil Nadu . . . . .	34	34 (100·00)	—	24 (70·59)	6 (17·65)	6 (17·65)	1 (2·94)	1 (2·94)	1 (2·94)
12. Uttar Pradesh . . . . .	85	85 (100·00)	—	76 (89·41)	26 (30·59)	1 (1·18)	9 (10·59)	6 (7·06)	25 (29·41)
13. West Bengal . . . . .	35	35 (100·00)	—	35 (100·00)	—	—	—	—	—
All States . . . . .	440	440 (100·00)	—	383 (87·05)	155 (35·23)	45 (10·23)	48 (10·91)	37 (8·41)	47 (10·68)

Note : (i) Figures in brackets in Cols. 3 to 10 are percentages to total in Col. 2.

State	No. reporting type of benefits accruing	No. reporting type of future benefits expected				
	Number reporting future benefits expected	More and easy availa- bility of fuelwood	More and easy availa- bility of fodder	Easy availa- bility of Employ- ment	Higher wage rates	Others
1	11	12	13	14	15	16
1. Andhra Pradesh . . . . .	16	11 (68·75)	3 (18·75)	7 (43·75)	2 (12·50)	5 (31·25)
2. Bihar . . . . .	40	31 (77·50)	16 (40·00)	28 (70·00)	8 (20·00)	9 (22·50)
3. Gujarat . . . . .	39	30 (76·92)	5 (12·82)	23 (58·97)	11 (28·21)	13 (33·33)
4. Haryana . . . . .	40	7 (17·50)	13 (32·50)	20 (50·00)	25 (62·50)	2 (5·00)
5. Himachal Pradesh . . . . .	27	26 (96·30)	27 (100·00)	24 (88·89)	—	1 (3·70)
6. Jammu & Kashmir . . . . .	28	28 (100·00)	24 (85·71)	25 (89·29)	—	5 (17·86)
7. Karnataka . . . . .	34	28 (82·35)	2 (5·88)	34 (100·00)	16 (47·06)	8 (23·53)
8. Maharashtra . . . . .	23	19 (82·61)	6 (26·09)	4 (17·39)	—	16 (69·57)
9. Orissa . . . . .	2	1 (50·00)	—	1 (50·00)	—	—
10. Rajasthan . . . . .	32	21 (65·63)	20 (62·50)	21 (65·63)	15 (46·88)	13 (40·64)
11. Tamil Nadu . . . . .	26	15 (57·69)	4 (15·38)	5 (19·23)	5 (19·23)	4 (15·38)
12. Uttar Pradesh . . . . .	85	84 (98·92)	54 (63·53)	12 (14·12)	—	48 (56·47)
13. West Bengal . . . . .	35	24 (68·57)	17 (48·57)	15 (42·86)	—	7 (20·00)
All States . . . . .	427	325 (76·11)	191 (44·73)	209 (48·95)	82 (19·20)	131 (30·68)

Note : (i) Figures in brackets Cols. 3 to 10 are percentages to total in Col. 2.  
(ii) Figures in brackets in Cols. 12 to 16 are percentages to total in Col. 11.

## Sources and availability of fuelwood

State	Number reporting sources	Before				
		Local market	Fields of employer/landlord	From nearby Forests	From pasture/grazing land	Others
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	19	—	4 (21.05)	12 (63.15)	1 (5.26)	4 (21.05)
2. Bihar . . . . .	40	—	—	4 (100.00)	—	1 (2.50)
3. Gujarat . . . . .	39	2 (5.13)	7 (17.95)	33 (84.62)	—	4 (10.26)
4. Haryana . . . . .	21	—	—	21 (100.00)	—	16 (76.19)
5. Himachal Pradesh . . . . .	27	—	—	27 (100.00)	—	8 (29.63)
6. Jammu & Kashmir . . . . .	28	13 (46.43)	—	9 (32.14)	—	21 (75.10)
7. Karnataka . . . . .	35	—	4 (11.43)	1 (2.86)	—	37 (105.71)
8. Maharashtra . . . . .	23	1 (4.35)	—	19 (82.61)	—	4 (17.39)
9. Orissa . . . . .	2	—	—	—	2 (100.00)	—
10. Rajasthan . . . . .	32	4 (12.50)	3 (9.38)	29 (90.63)	5 (15.63)	5 (15.63)
11. Tamil Nadu . . . . .	34	3 (8.82)	10 (29.41)	24 (70.59)	—	8 (23.53)
12. Uttar Pradesh . . . . .	74	11 (14.86)	8 (10.81)	58 (78.38)	6 (8.11)	21 (28.38)
13. West Bengal . . . . .	35	2 (5.71)	—	25 (71.43)	3 (8.57)	8 (22.86)
All States . . . . .	409	36 (8.80)	36 (8.80)	298 (72.86)	17 (4.15)	137 (33.45)

Note : Figures in brackets indicate percentages to total in Col. 2.

State	After				
	Local market	Field of Employer/ landlord	From near by forests	From pasture/ grazing land	Others
1	8	9	10	11	12
1. Andhra Pradesh	—	4 (21.05)	12 (63.15)	1 (5.26)	4 (21.05)
2. Bihar	—	—	40 (100.00)	—	1 (2.50)
3. Gujarat	2 (5.13)	7 (17.95)	34 (87.18)	—	4 (10.26)
4. Haryana	—	—	21 (100.00)	—	16 (76.19)
5. Himachal Pradesh	—	—	27 (100.00)	—	9 (33.33)
6. Jammu & Kashmir	13 (46.43)	—	9 (32.14)	—	21 (75.00)
7. Karnataka	—	—	5 (14.29)	—	33 (94.29)
8. Maharashtra	1 (4.35)	—	19 (82.61)	—	4 (17.39)
9. Orissa	—	—	—	—	2 (100.00)
10. Rajasthan	4 (12.50)	3 (9.38)	29 (90.63)	5 (15.63)	5 (15.63)
11. Tamil Nadu	3 (8.82)	10 (29.41)	22 (64.71)	—	10 (29.41)
12. Uttar Pradesh	10 (13.51)	8 (10.81)	59 (79.73)	4 (5.41)	22 (29.73)
13. West Bengal	2 (5.71)	—	25 (71.43)	3 (8.57)	8 (22.86)
All States	35 (8.56)	32 (7.82)	302 (73.84)	13 (3.18)	139 (33.99)

Note : Figures in brackets indicate percentages to total in Col. 2.



## Sources of availability of Fodder

State	Number reporting any source	Before				
		Local Market	Field of employer/ landlord	From nearby forests	From pasture grazing land	Others
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	7	—	1 (14.29)	1 (14.29)	2 (28.57)	3 (42.86)
2. Bihar . . . . .	23	—	4 (17.39)	5 (21.74)	19 (47.50)	2 (5.00)
3. Gujarat . . . . .	23	—	11 (28.21)	—	6 (15.38)	5 (12.82)
4. Haryana . . . . .	28	—	21 (75.00)	1 (3.57)	11 (39.29)	7 (25.00)
5. Himachal Pradesh . . . . .	26	4 (15.38)	—	26 (100.00)	—	8 (30.77)
6. Jammu & Kashmir . . . . .	28	11 (39.29)	—	8 (28.57)	—	27 (96.43)
7. Karnataka . . . . .	21	2 (9.52)	1 (4.76)	—	11 (52.38)	13 (61.90)
8. Maharashtra . . . . .	13	5 (21.74)	—	3 (13.04)	6 (26.09)	1 (4.35)
9. Orissa . . . . .	2	—	2 (100.00)	—	—	—
10. Rajasthan . . . . .	26	2 (7.69)	2 (7.69)	18 (69.23)	14 (53.85)	5 (19.23)
11. Tamil Nadu . . . . .	13	1 (7.69)	2 (15.38)	6 (46.15)	6 (46.15)	2 (15.38)
12. Uttar Pradesh . . . . .	65	4 (6.15)	6 (9.23)	48 (73.85)	9 (13.85)	17 (26.15)
13. West Bengal . . . . .	14	2 (14.29)	—	6 (42.86)	—	5 (35.71)
All States . . . . .	289	31 (10.73)	50 (17.30)	122 (42.21)	84 (29.07)	95 (32.87)

Notes : Figures in brackets indicate percentages to total in Col. 2.

State	After				
	Local Market	Fields of employer/ landlord	From nearby/ forests	From pasture grazing land	Others
1	8	9	10	11	12
1. Andhra Pradesh . . . . .	—	1 (14.29)	1 (14.29)	2 (28.57)	3 (42.86)
2. Bihar . . . . .	—	4 (10.00)	5 (12.50)	19 (47.50)	2 (5.00)
3. Gujarat . . . . .	—	11 (28.21)	—	7 (17.95)	5 (12.82)
4. Haryana . . . . .	—	21 (75.00)	1 (3.57)	11 (39.29)	7 (25.00)
5. Himachal Pradesh . . . . .	4 (15.38)	—	25 (96.15)	—	8 (30.77)
6. Jammu & Kashmir . . . . .	11 (39.29)	—	8 (28.57)	—	27 (96.43)
7. Karnataka . . . . .	2 (9.52)	—	1 (4.76)	10 (47.62)	13 (61.90)
8. Maharashtra . . . . .	5 (21.74)	—	3 (13.04)	6 (26.09)	1 (4.35)
9. Orissa . . . . .	—	2 (100.00)	—	—	—
10. Rajasthan . . . . .	3 (11.54)	1 (3.85)	17 (65.38)	12 (46.15)	9 (34.62)
11. Tamil Nadu . . . . .	1 (7.69)	3 (23.08)	7 (53.85)	6 (46.15)	2 (15.38)
12. Uttar Pradesh . . . . .	4 (6.15)	6 (9.23)	48 (73.85)	7 (10.77)	18 (27.69)
13. West Bengal . . . . .	2 (14.29)	—	6 (42.86)	—	5 (35.71)
All States . . . . .	32 (11.07)	49 (16.96)	122 (42.21)	80 (27.68)	100 (34.60)

Note : Figures in brackets indicate percentages to total in Col. 2.

## Sources of availability of Small Timber

State	Number reporting any source	Before				
		Local Market	Field of employer/ landlord	From nearby forests	From pasture/ grazing land	Others
1	2	3	4	5	6	7
1. Andhra Pradesh	20	7 (35.00)	4 (20.00)	6 (30.00)	—	3 (15.00)
2. Bihar	40	1 (2.50)	—	39 (97.50)	—	—
3. Gujarat	39	7 (17.95)	6 (15.38)	19 (48.72)	—	3 (7.69)
4. Haryana	34	34 (100.00)	—	—	—	6 (17.65)
5. Himachal Pradesh	27	—	—	26 (96.30)	—	4 (14.81)
6. Jammu & Kashmir	28	28 (100.00)	—	—	—	—
7. Karnataka	35	29 (82.86)	1 (2.86)	—	—	5 (14.29)
8. Maharashtra	23	10 (43.48)	—	12 (52.17)	—	1 (4.35)
9. Orissa	2	2 (100.00)	—	—	—	—
10. Rajasthan	21	13 (61.90)	1 (4.76)	16 (76.19)	1 (4.76)	—
11. Tamil Nadu	33	20 (60.61)	3 (9.09)	9 (27.27)	—	1 (3.03)
12. Uttar Pradesh	85	25 (29.41)	—	20 (23.53)	—	40 (47.06)
13. West Bengal	31	3 (9.68)	—	19 (61.29)	—	9 (29.03)
All States	418	179 (42.82)	15 (3.59)	166 (39.71)	1 (0.24)	72 (17.22)

Note : Figures in brackets indicate percentages to total in Col. 2.

State	After				
	Local Market	Field of employer/ landlord	From nearby forests	From pasture/ grazing land	Others
1	8	9	10	11	12
1. Andhra Pradesh	7 (35.00)	4 (20.00)	6 (30.00)	—	3 (15.00)
2. Bihar	1 (2.50)	—	39 (97.50)	—	—
3. Gujarat	8 (20.51)	7 (17.95)	19 (48.72)	—	3 (7.69)
4. Haryana	34 (100.00)	—	—	—	6 (17.65)
5. Himachal Pradesh	—	—	26 (96.30)	—	5 (18.52)
6. Jammu & Kashmir	28 (100.00)	—	—	—	—
7. Karnataka	25 (71.43)	—	5 (14.29)	—	5 (14.29)
8. Maharashtra	10 (43.48)	—	12 (52.17)	—	— (4.35)
9. Orissa	1 (50.00)	—	—	—	—
10. Rajasthan	13 (61.90)	1 (4.76)	16 (76.19)	1 (4.76)	—
11. Tamil Nadu	19 (57.57)	3 (9.09)	9 (27.27)	—	2 (6.06)
12. Uttar Pradesh	25 (29.41)	—	20 (23.53)	—	40 (47.06)
13. West Bengal	—	—	8 (25.81)	—	6 (19.35)
All States	171 (40.91)	15 (3.59)	160 (38.28)	1 (0.24)	71 (16.99)

Note: Figures in brackets indicate percentages to total in Col. 2.

## Family members going out to fetch fuelwood/fodder

State	Number reporting use of fuelwood	No reporting family memberwise			
		Self	Wife	Children	Other relatives
1	2	3	4	5	6
1. Andhra Pradesh . . . . .	19	12 (63.16)	2 (10.53)	2 (10.53)	6 (31.58)
2. Bihar . . . . .	40	12 (30.00)	30 (75.00)	6 (15.00)	10 (25.00)
3. Gujarat . . . . .	39	16 (41.03)	17 (43.59)	3 (7.69)	9 (23.08)
4. Haryana . . . . .	21	—	21 (100.00)	—	2 (9.52)
5. Himachal Pradesh . . . . .	27	19 (70.37)	3 (11.11)	4 (14.81)	12 (44.44)
6. Jammu & Kashmir . . . . .	28	26 (92.86)	2 (7.14)	4 (14.29)	14 (50.00)
7. Karnataka . . . . .	35	24 (68.57)	16 (45.71)	1 (2.86)	14 (40.00)
8. Maharashtra . . . . .	23	11 (47.83)	6 (26.09)	1 (4.35)	6 (26.09)
9. Orissa . . . . .	2	—	2 (100.00)	—	—
10. Rajasthan . . . . .	32	11 (34.38)	24 (75.00)	9 (28.13)	6 (18.75)
11. Tamil Nadu . . . . .	34	17 (50.00)	21 (61.76)	1 (2.94)	8 (23.53)
12. Uttar Pradesh . . . . .	74	27 (36.49)	53 (71.62)	5 (6.76)	7 (22.97)
13. West Bengal . . . . .	35	13 (37.14)	25 (71.43)	3 (8.57)	3 (8.57)
All States . . . . .	409	188 (45.97)	230 (56.23)	39 (9.54)	107 (26.16)

Note:— (i) Figures in brackets under Cols. 3 to 6 are percentages to Col. 2.

(ii) Figures in brackets under Cols. 8 to 11 are percentages to Col. 7.

Family members going out to fetch fuelwood/fodder

Annex.—6.12

State	Number reporting use of fodder	No reporting family memberwise			
		Self	Wife	Children	Other relatives
1	7	8	9	10	11
1. Andhra Pradesh . . . . .	7	3 (42.86)	—	3 (42.86)	1 (14.29)
2. Bihar . . . . .	23	9 (39.13)	7 (30.43)	11 (47.83)	5 (21.74)
3. Gujarat . . . . .	23	11 (47.83)	14 (60.87)	—	2 (8.70)
4. Haryana . . . . .	28	1 (3.57)	24 (85.71)	3 (10.71)	—
4. Himachal Pradesh . . . . .	26	19 (73.08)	3 (11.54)	4 (15.38)	11 (42.31)
6. Jammu & Kashmir . . . . .	28	25 (89.29)	2 (7.14)	4 (14.29)	14 (50.00)
7. Karnataka . . . . .	21	19 (90.48)	4 (19.05)	3 (14.29)	9 (42.86)
8. Maharashtra . . . . .	13	7 (53.85)	1 (7.69)	2 (15.38)	4 (30.77)
9. Orissa . . . . .	2	2 (100.00)	—	—	—
10. Rajasthan . . . . .	26	12 (46.15)	18 (69.23)	9 (34.62)	2 (7.69)
11. Tamil Nadu . . . . .	13	5 (38.46)	8 (61.54)	—	5 (38.46)
12. Uttar Pradesh . . . . .	65	21 (32.31)	41 (63.08)	3 (4.61)	14 (21.54)
13. West Bengal . . . . .	14	3 (21.43)	5 (35.71)	2 (14.29)	2 (14.29)
All States . . . . .	289	137 (47.40)	127 (43.94)	44 (15.22)	69 (23.88)

Note:— (i) Figures in brackets under Cols. 3 to 6 are percentages to Col. 2.  
(ii) Figures in brackets under Cols. 8 to 11 are percentages to Col. 7.

## Distance travelled for fetching fuelwood/fodder

State	No. reported use of fuelwood	No reporting distance travelled for fetching fuelwood					
		Before			After		
		Less than one K.m.	Between land 3 kms.	Beyond 3 Kms.	Less than one Km.	Between land 3 kms.	Beyond 3 Kms.
		3	4	5	6	7	8
1. Andhra Pradesh	19	7 (36.84)	12 (68.16)	—	7 (36.84)	12 (68.16)	—
2. Bihar	40	13 (32.50)	20 (50.00)	7 (17.50)	13 (32.50)	20 (50.00)	7 (17.50)
3. Gujarat	39	18 (46.15)	14 (35.00)	7 (17.95)	18 (46.15)	14 (35.00)	7 (17.95)
4. Haryana	21	5 (23.81)	16 (76.19)	—	5 (23.81)	16 (76.19)	—
5. Himachal Pradesh	27	12 (44.44)	10 (37.04)	5 (18.52)	3 (11.11)	18 (66.67)	6 (22.22)
6. Jammu & Kashmir	28	14 (50.00)	14 (50.00)	—	14 (50.00)	14 (50.00)	—
7. Karnataka	35	4 (11.43)	25 (71.43)	6 (17.14)	4 (11.43)	30 (85.71)	1 (2.86)
8. Maharashtra	23	2 (8.69)	20 (86.96)	1 (4.35)	2 (8.69)	20 (86.96)	1 (4.35)
9. Orissa	2	1 (50.00)	1 (50.00)	—	1 (50.00)	1 (30.00)	—
10. Rajasthan	32	—	22 (68.75)	10 (31.25)	—	21 (65.63)	1 (3.13)
11. Tamil Nadu	34	10 (29.41)	10 (29.41)	14 (41.18)	6 (17.65)	14 (41.18)	14 (41.18)
12. Uttar Pradesh	74	7 (9.46)	53 (71.62)	14 (18.92)	7 (9.46)	53 (71.62)	14 (18.92)
13. West Bengal	35	5 (14.29)	15 (42.86)	15 (42.86)	5 (14.29)	15 (52.68)	15 (42.86)
All States	409	98 (23.96)	232 (56.72)	79 (19.32)	85 (20.78)	248 (60.64)	76 (18.58)

Note :— (i) Figures in brackets in Cols. 3 to 8 indicate percentages to total in Co. 1.2.

State	No. reporting use of fodder	No reporting distance travelled for fetching fodder					
		Before			After		
		Less than one kms.	Between land 3 kms.	Beyond 3 kms.	Less than one kms.	Between land 3 kms.	Beyond 3 kms.
1	9	10	11	12	13	14	15
1. Andhra Pradesh . . . . .	7	4 (57.14)	3 (42.86)	—	4 (57.14)	3 (42.86)	—
2. Bihar . . . . .	23	11 (47.83)	9 (39.13)	3 (13.04)	11 (47.83)	9 (39.13)	3 (13.04)
3. Gujarat . . . . .	23	5 (21.74)	11 (47.83)	7 (30.43)	5 (21.74)	11 (47.83)	7 (30.43)
4. Haryana . . . . .	28	21 (75.00)	7 (25.00)	—	21 (75.00)	7 (25.00)	—
5. Himachal Pradesh . . . . .	26	11 (42.31)	10 (38.46)	5 (19.23)	3 (11.54)	18 (69.23)	5 (19.23)
6. Jammu & Kashmir . . . . .	28	18 (64.29)	10 (35.71)	—	18 (64.29)	10 (35.71)	—
7. Karnataka . . . . .	21	2 (9.52)	15 (71.43)	4 (19.05)	2 (9.52)	16 (76.19)	3 (14.29)
8. Maharashtra . . . . .	13	3 (23.08)	5 (38.46)	5 (38.46)	3 (23.08)	5 (38.46)	5 (38.46)
9. Orissa . . . . .	2	2 (100.00)	—	—	2 (100.00)	—	—
10. Rajasthan . . . . .	26	—	24 (92.31)	2 (7.69)	2 (7.69)	22 (84.62)	2 (7.69)
11. Tamil Nadu . . . . .	13	7 (53.85)	4 (30.77)	2 (15.38)	4 (30.77)	8 (61.54)	1 (7.69)
12. Uttar Pradesh . . . . .	65	13 (20.00)	46 (70.77)	6 (9.23)	12 (18.46)	47 (72.31)	6 (9.23)
13. West Bengal . . . . .	14	9 (64.29)	3 (21.43)	2 (14.28)	9 (64.29)	3 (21.43)	2 (14.28)
All States . . . . .	289	106 (36.68)	147 (50.86)	36 (12.46)	96 (33.32)	159 (55.02)	34 (11.76)

Note:— (i) Figures in brackets in Cols. 10 to 15 indicate percentages to total in Col. 9.



## Person hours spent in a week for procuring fuelwood/fodder

State	Total Number reporting use of fuelwood	Time spent for procuring fuelwood number					
		reporting					
		Before			After		
		Upto 7 hrs.	7 to 15 hrs.	Beyond 15 hrs.	Upto 7 hrs.	7 to 15 hrs.	Beyond 15 hrs.
1	2	3	4	5.	6	7	8
1. Andhra Pradesh . . . . .	19	19 (100.00)	—	—	19 (100.00)	—	—
2. Bihar . . . . .	40	1 (2.50)	29 (72.50)	10 (25.00)	1 (2.50)	29 (72.50)	10 (25.00)
3. Gujarat . . . . .	39	20 (51.28)	16 (41.03)	3 (7.69)	21 (53.85)	15 (38.46)	3 (7.69)
4. Haryana . . . . .	21	3 (14.29)	18 (85.71)	—	3 (14.29)	18 (85.71)	—
5. Himachal Pradesh . . . . .	27	13 (48.15)	14 (51.85)	—	4 (14.81)	22 (81.48)	1 (3.70)
6. Jammu & Kashmir . . . . .	28	18 (64.29)	7 (25.00)	3 (10.71)	18 (64.29)	7 (25.00)	3 (10.71)
7. Karnataka . . . . .	35	33 (94.29)	—	2 (5.71)	33 (94.29)	—	2 (5.71)
8. Maharashtra . . . . .	23	14 (60.87)	7 (30.43)	2 (8.70)	14 (60.87)	7 (30.43)	2 (8.70)
9. Orissa . . . . .	2	2 (100.00)	—	—	2 (100.00)	—	—
10. Rajasthan . . . . .	32	14 (43.75)	17 (53.13)	1 (3.13)	13 (40.64)	18 (46.25)	1 (3.13)
11. Tamil Nadu . . . . .	34	12 (35.29)	21 (61.76)	1 (2.94)	11 (32.35)	22 (64.71)	1 (2.94)
12. Uttar Pradesh . . . . .	74	19 (25.68)	26 (35.13)	29 (39.19)	29 (39.19)	26 (35.13)	19 (25.68)
13. West Bengal . . . . .	35	13 (37.14)	22 (62.86)	—	13 (37.14)	22 (62.86)	—
All States . . . . .	409	181 (44.25)	177 (43.28)	51 (12.47)	181 (44.25)	186 (45.48)	42 (10.27)

Note:—(i) Figures in brackets in Col. 3 to 8 indicate percentages to total in Col. 2.

State	Total number reporting use of fodder	Time spent for procuring fodder, number reporting					
		Before			After		
		Upto 7 hrs.	7 to 15 hrs.	Beyond 15 hrs.	Upto 7 hrs.	7 to 15 hrs.	Beyond 15 hrs.
1.	9.	10.	11.	12.	13.	14.	15.
1. Andhra Pradesh . . . . .	7	6 (85·71)	1 (14·29)	—	6 (85·71)	1 (14·29)	—
2. Bihar . . . . .	23	—	12 (52·17)	11 (47·83)	—	12 (52·17)	11 (47·83)
3. Gujarat . . . . .	23	11 (47·83)	9 (39·13)	3 (13·04)	11 (47·83)	9 (39·13)	3 (13·04)
4. Haryana . . . . .	28	2 (7·14)	22 (78·57)	4 (14·29)	2 (7·14)	22 (78·51)	4 (14·29)
5. Himachal Pradesh . . . . .	26	3 (11·54)	13 (50·00)	10 (38·46)	—	8 (30·77)	18 (69·23)
6. Jammu & Kashmir . . . . .	28	14 (50·00)	13 (46·43)	1 (3·57)	14 (50·00)	13 (46·43)	1 (3·57)
7. Karnataka . . . . .	21	9 (42·86)	8 (38·10)	4 (19·04)	9 (42·86)	8 (38·10)	4 (19·04)
8. Maharashtra . . . . .	13	8 (61·54)	2 (15·38)	3 (23·08)	8 (61·54)	2 (15·38)	3 (23·08)
9. Orissa . . . . .	2	2 (100·00)	—	—	2 (100·00)	—	—
10. Rajasthan . . . . .	26	10 (38·46)	14 (53·85)	2 (7·69)	10 (38·46)	14 (53·85)	2 (7·69)
11. Tamil Nadu . . . . .	13	7 (53·85)	6 (46·15)	—	6 (46·15)	7 (53·85)	—
12. Uttar Pradesh . . . . .	65	4 (6·15)	18 (27·69)	43 (66·15)	4 (6·15)	17 (26·15)	44 (67·69)
13. West Bengal . . . . .	14	9 (64·29)	5 (35·71)	—	9 (64·29)	5 (35·71)	—
All States . . . . .	289	85 (29·41)	123 (42·56)	81 (28·03)	81 (28·03)	118 (40·83)	90 (31·14)

Note:— (i) Figures in brackets in Cols. 10 to 15 indicate percentages to total in Col. 9.

## Requirements of Fuelwood met easily/with difficulty and reasons for difficulties being faced

Sl. No.	State	Number reporting use of fuelwood	Number reporting requirement type of (contd)							
			met difficulties experienced							
			Easily		With difficulty		Source too far		Exploitations by Forest Guard	
			Before	After	Before	After	Before	After	Before	After
		2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Andhra Pradesh	19	14 (73.68)	13 (68.42)	5 (26.32)	6 (31.58)	4 (80.00)	4 (66.67)	—	—
2.	Bihar	40	38 (95.00)	38 (95.00)	2 (5.00)	2 (5.00)	—	—	—	—
3.	Gujarat	39	29 (74.36)	29 (74.36)	10 (25.64)	10 (25.64)	4 (40.00)	4 (40.00)	—	—
4.	Haryana	21	21 (100.00)	21 (100.00)	—	—	—	—	—	—
5.	Himachal Pradesh	27	23 (85.19)	17 (62.96)	4 (14.81)	10 (37.04)	4 (100.00)	8 (80.00)	—	—
6.	Jammu & Kashmir	28	26 (92.86)	26 (92.86)	2 (7.14)	2 (7.14)	2 (100.00)	1 (50.00)	—	—
7.	Karnataka	35	25 (71.43)	30 (85.71)	10 (28.57)	5 (14.29)	6 (60.00)	1 (20.00)	—	—
8.	Maharashtra	23	19 (82.61)	19 (82.61)	4 (17.39)	4 (17.39)	—	—	—	—
9.	Orissa	2	—	—	2 (100.00)	2 (100.00)	—	—	—	—
10.	Rajasthan	32	13 (40.62)	13 (40.62)	19 (59.38)	19 (59.38)	19 (100.00)	19 (100.00)	2 (10.53)	2 (10.53)
11.	Tamil Nadu	34	23 (67.65)	22 (64.71)	11 (32.35)	12 (35.29)	9 (81.82)	9 (75.00)	—	—
12.	Uttar Pradesh	74	23 (31.08)	18 (24.32)	51 (68.92)	56 (75.68)	37 (72.55)	38 (67.86)	1 (1.96)	1 (1.79)
13.	West Bengal	35	2 (5.71)	2 (5.71)	33 (94.29)	33 (94.29)	5 (15.15)	5 (15.15)	25 (75.76)	25 (75.76)
All States		409	256 (62.59)	248 (60.64)	153 (37.41)	161 (39.36)	90 (58.82)	89 (55.28)	28 (18.30)	28 (17.39)

Note :— (i) Figures in Cols. 3 to 6 are percentages to total in Col. 2.  
(ii) Figures in Cols. 7, 9, 11, 13 & 15 are percentages to total in Col. 5.  
(iii) Figures in Cols. 8, 10, 12, 14 & 16 are percentages to total in Col. 6.

Sl. No.	State	type of difficulties experienced (concl'd.)					
		Owner cultivators do not permit to take from their fields		Strict restrictions on the use of produce of social products		Any Other	
		Before	After	Before	After	Before	After
1.		11.	12.	13.	14.	15.	16.
1. Andhra Pradesh		1 (20.00)	—	—	—	—	2 (33.33)
2. Bihar		—	—	—	—	2 (100.00)	2 (100.00)
3. Gujarat		2 (20.00)	2 (20.00)	—	—	2 (20.00)	2 (20.00)
4. Haryana		—	—	—	—	—	—
5. Himachal Pradesh		—	2 (20.00)	—	4 (40.00)	—	—
6. Jammu & Kashmir		—	—	—	—	2 (100.00)	2 (100.00)
7. Karnataka		8 (80.00)	3 (60.00)	—	—	5 (50.00)	1 (20.00)
8. Maharashtra		—	—	3 (75.00)	3 (75.00)	1 (25.00)	1 (25.00)
9. Orissa		—	—	—	—	—	—
10. Rajasthan		2 (10.53)	4 (21.05)	2 (10.53)	2 (5.26)	3 (15.79)	3 (15.79)
11. Tamil Nadu		2 (18.18)	1 (8.33)	—	2 (16.67)	1 (9.09)	3 (25.00)
12. Uttar Pradesh		8 (15.69)	10 (17.86)	—	—	13 (25.49)	14 (25.00)
13. West Bengal		3 (9.09)	3 (9.09)	—	—	15 (45.45)	15 (45.45)
All States		26 (16.99)	25 (15.53)	5 (3.27)	10 (6.21)	44 (28.76)	43 (26.71)

NOTE :— (i) Figures in Cols. 3 to 6 are percentages to total in Col. 2

(ii) Figures in Cols. 7, 9, 11, 13 & 15 are percentages to total in cols. 5.

(iii) Figures in Cols. 8, 10, 12, 14 & 16 are percentages to total in Col. 6.

## Requirement of Fodder met easily/with difficulty and reasons for difficulties being faced

Sl No.	State	Number reporting use of fodder	Number reporting requirement met			
			Easily		With difficulty	
			Before	After	Before	After
1.		2.	3.	4.	5.	6.
1. Andhra Pradesh . . . . .	7	6 (85.71)	7 (100.00)	1 (14.29)	—	—
2. Bihar . . . . .	23	22 (95.65)	1 (4.35)	1 (4.35)	—	—
3. Gujarat . . . . .	23	18 (78.26)	18 (78.26)	5 (21.74)	5 (21.74)	5
4. Haryana . . . . .	28	28 (100.00)	28 (100.00)	—	—	—
5. Himachal Pradesh . . . . .	26	21 (80.77)	16 (61.54)	5 (19.23)	10 (38.46)	10
6. Jammu & Kashmir . . . . .	28	25 (89.29)	25 (89.29)	3 (10.71)	3 (10.71)	3
7. Karnataka . . . . .	21	14 (66.67)	15 (71.43)	7 (33.33)	6 (28.57)	6
8. Maharashtra . . . . .	13	9 (69.23)	9 (69.23)	4 (30.77)	4 (30.77)	4
9. Orissa . . . . .	2	—	—	2 (100.00)	2 (100.00)	2
10. Rajasthan . . . . .	26	17 (65.38)	18 (69.23)	9 (34.32)	8 (30.77)	8
11. Tamil Nadu . . . . .	13	10 (76.92)	10 (76.92)	3 (23.08)	3 (23.08)	3
12. Uttar Pradesh . . . . .	65	24 (36.92)	21 (32.31)	41 (63.08)	44 (67.69)	44
13. West Bengal . . . . .	14	8 (57.14)	8 (27.14)	6 (42.86)	6 (42.86)	6
All States . . . . .	289	202 (69.90)	197 (68.17)	87 (30.10)	92 (31.83)	92

Note :—

- (i) Figures in Cols 3 to 6 are percentages to total in Col. 2.  
(ii) Figures in Cols. 7, 9, 11, 13 & 15 are percentages to total in Col. 5.  
(iii) Figures in Cols. 8, 10, 12, 14 & 16 are percentages to total in Col. 6.

State	Of those reporting requirements not met easily, difficulties experienced									
	Sources too far		Exploitations by forest guards		Owner cultivators do not permit to take from their fields		Common pasture and grazing land reduced		Any other	
	Before	After	Before	After	Before	After	Before	After	Before	After
1.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Andhra Pradesh .	1 (100.00)	—	—	—	—	—	—	—	—	—
2. Bihar . . .	—	—	—	—	—	—	1 (100.00)	—	—	—
3. Gujarat . .	—	—	—	—	3 (60.00)	3 (60.00)	—	—	2 (40.00)	2 (40.00)
4. Haryana . .	—	—	—	—	—	—	—	—	—	—
5. Himachal Pradesh	4 (80.00)	8 (80.00)	—	—	5 (100.00)	6 (60.00)	—	—	2 (40.00)	5 (20.00)
6. Jammu & Kashmir	2 (66.37)	2 (66.67)	—	—	—	—	—	—	1 (33.33)	1 (33.33)
7. Karnataka .	4 (57.14)	3 (50.00)	—	—	3 (42.86)	2 (33.33)	3 (42.86)	2 (33.33)	1 (14.29)	1 (16.67)
8. Maharashtra .	2 (50.00)	2 (50.00)	—	—	—	—	3 (75.00)	3 (75.00)	1 (25.00)	1 (25.00)
9. Orissa . . .	—	—	—	—	2 (100.00)	2 (100.00)	—	—	—	—
10. Rajasthan .	5 (55.50)	5 (62.50)	1 (11.11)	1 (12.50)	1 (11.11)	1 (12.50)	4 (44.44)	3 (37.50)	2 (22.22)	2 (25.00)
11. Tamil Nadu .	3 (75.00)	1 (33.33)	1 (33.33)	—	3 (100.00)	1 (33.33)	1 (33.33)	2 (66.67)	—	2 (66.67)
12. Uttar Pradesh .	36 (87.80)	37 (84.09)	—	1 (2.27)	3 (7.32)	3 (6.82)	7 (17.02)	9 (20.45)	10 (24.39)	10 (22.73)
13. West Bengal .	1 (16.67)	1 (16.67)	—	—	—	—	—	—	5 (83.33)	5 (83.33)
All States . .	58 (66.67)	59 (64.13)	2 (2.36)	2 (2.17)	20 (22.99)	18 (19.57)	19 (21.84)	20 (21.74)	24 (27.59)	29 (31.52)

## Requirement of small timber met easily/with difficulty and reasons for difficulties being faced.

Sl. No.	State	Number reporting use of small timber	Number Reporting requirement met			
			Easily		With difficulty	
			Before	After	Before	After
1		2	3	4	5	6
1. Andhra Pradesh . . . . .		20	12 (60.00)	17 (85.00)	8 (40.00)	38 (50.00)
2. Bihar . . . . .		40	39 (97.50)	39 (97.50)	1 (2.50)	1 (2.50)
3. Gujarat . . . . .		39	30 (76.92)	30 (76.92)	9 (23.08)	9 (23.08)
4. Haryana . . . . .		34	34 (100.00)	34 (100.00)	—	—
5. Himachal Pradesh . . . . .		28	23 (85.19)	15 (55.56)	4 (14.81)	12 (44.44)
6. Jammu & Kashmir . . . . .		2	28 (100.00)	28 (100.00)	—	—
7. Karnataka . . . . .		35	5 (14.29)	10 (28.57)	30 (85.71)	25 (71.43)
8. Maharashtra . . . . .		23	19 (82.61)	19 (82.61)	4 (17.39)	4 (17.39)
9. Orissa . . . . .		2	—	—	2 (100.00)	2 (100.00)
10. Rajasthan . . . . .		21	2 (9.52)	—	19 (90.48)	21 (100.00)
11. Tamil Nadu . . . . .		33	23 (69.70)	22 (66.67)	10 (30.30)	11 (33.33)
12. Uttar Pradesh . . . . .		85	53 (62.35)	54 (63.53)	32 (37.65)	31 (36.47)
13. West Bengal . . . . .		31	3 (9.68)	19 (61.29)	28 (90.32)	12 (38.71)
All States . . . . .		418 (100.00)	271 (64.83)	287 (64.66)	147 (35.17)	131 (31.34)

Note : —

- (i) Figures in brackets in Cols. 3 to 6 are percentages to total in Col. 2.  
(ii) Figures in brackets in Cols. 7, 9, 11, 13—are percentages to total in Col. 5.  
(iii) Figures in brackets in Cols. 8, 10, 12, 14 are percentages to total in Col. 6.

## Of those reporting requirements not met easily, difficulties experienced

State	Source too far		Exploitation by Forest Guards		Strict restriction on use of products of Social Forestry produce		Any other	
	Before	After	Before	After	Before	After	Before	After
1.	7.	8.	9.	10.	11.	12.	13.	14.
1. Andhra Pradesh	4 (50.00)	—	—	—	—	—	4 (37.50)	3 (100.00)
2. Bihar	1 (100.00)	1 (100.00)	—	—	—	—	—	—
3. Gujarat	7 (77.78)	7 (77.78)	—	—	—	—	3 (33.33)	3 (33.33)
4. Haryana	—	—	—	—	—	—	—	—
5. Himachal Pradesh	4 (100.00)	8 (66.67)	—	—	—	6 (50.00)	—	3 (25.00)
6. Jammu & Kashmir	—	—	—	—	—	—	—	—
7. Karnataka	22 (73.33)	19 (76.00)	1 (3.33)	—	—	—	9 (30.00)	9 (20.00)
8. Maharashtra	1 (25.00)	—	—	—	3 (75.00)	3 (75.00)	—	1 (25.00)
9. Orissa	2 (100.00)	—	—	—	—	—	—	2 (100.00)
10. Rajasthan	19 (100.00)	20 (95.24)	2 (10.53)	2 (9.52)	1 (5.26)	2 (9.52)	4 (21.05)	5 (23.81)
11. Tamil Nadu	5 (50.00)	4 (36.36)	—	—	—	—	5 (50.00)	7 (63.64)
12. Uttar Pradesh	11 (34.38)	11 (35.48)	—	—	—	—	21 (65.63)	20 (64.52)
13. West Bengal	5 (17.86)	3 (25.00)	23 (82.14)	12 (100.00)	—	—	13 (46.43)	3 (25.00)
All States	81 (55.10)	73 (55.72)	26 (17.69)	14 (10.69)	4 (2.72)	11 (6.40)	59 (40.13)	52 (39.69)



## Plants not being properly looked after and suggestions for improvement

State	No. of beneficiaries selected	Number reporting plants not properly looked after	Number giving suggestions for proper care				
			Need for convincing the villagers	Thorny sticks around the plants	Engaging chowkidar	Brick Gridle	Other including active involvement and spl. Trg. to school children
1.	2.	3.	4.	5.	6.	7.	8.
1. Andhra Pradesh . . . . .	20	5 (25.0)	—	1 (20.0)	4 (80.0)	—	1 (20.0)
2. Bihar . . . . .	40	20 (50.0)	11 (55.0)	2 (10.0)	20 (100.0)	18 (90.0)	—
3. Gujarat . . . . .	39	11 (37.9)	1 (9.1)	—	3 (27.3)	—	10 (90.1)
4. Haryana . . . . .	40	—	—	—	—	—	—
5. Himachal Pradesh . . . . .	27	—	—	—	—	—	—
6. Jammu & Kashmir . . . . .	28	—	—	—	—	—	—
7. Karnataka . . . . .	35	—	—	—	—	—	—
8. Maharashtra . . . . .	23	5 (21.7)	—	4 (80.0)	—	—	3 (69.0)
9. Orissa . . . . .	2	1 (50.0)	1 (100.0)	—	—	—	—
10. Rajasthan . . . . .	32	15 (46.9)	10 (66.6)	3 (20.0)	8 (53.3)	2 (13.2)	13 (86.6)
11. Tamil Nadu . . . . .	34	6 (17.6)	1 (16.6)	1 (16.6)	2 (33.3)	2 (33.3)	1 (16.6)
12. Uttar Pradesh . . . . .	85	38 (44.7)	9 (23.7)	2 (5.3)	20 (52.6)	2 (5.3)	6 (13.8)
13. West Bengal . . . . .	35	35 (100.0)	—	10 (28.6)	33 (94.3)	—	9 (26.7)
All States . . . . .	440	136 (30.91)	33 (24.26)	23 (16.91)	90 (66.18)	24 (17.65)	43 (31.61)

Note :—Figures in brackets are percentages to total in Col. 3.

## Awareness and duties towards public plantations

State	Number of beneficiaries selected	Number reporting awareness	Number reporting duties towards the plants			
			Unauthorised cutting of trees/branches should be stopped	Damage to plants should be avoided	If needed watering may be done	Any other
1.	2.	3.	4.	5.	6.	7.
1. Andhra Pradesh . . . . .	20	3 (15.00)	1 (33.33)	2 (66.66)	—	—
2. Bihar . . . . .	40	37 (92.50)	22 (59.45)	36 (97.29)	1 (2.70)	—
3. Gujarat . . . . .	39	38 (97.44)	2 (5.26)	32 (84.21)	19 (50.00)	7 (18.42)
4. Haryana . . . . .	40	39 (97.50)	29 (74.35)	34 (87.18)	11 (28.20)	—
5. Himachal Pradesh . . . . .	27	27 (100.00)	23 (85.10)	20 (74.07)	3 (11.11)	6 (22.22)
6. Jammu & Kashmir . . . . .	28	28 (100.00)	3 (10.71)	28 (82.14)	1 (3.57)	6 (21.43)
7. Karnataka . . . . .	35	27 (77.14)	23 (85.18)	20 (74.07)	21 (77.77)	2 (7.41)
8. Maharashtra . . . . .	23	23 (100.00)	6 (26.09)	14 (60.87)	3 (13.04)	8 (34.76)
9. Orissa . . . . .	2	2 (100.00)	—	2 (100.00)	—	—
10. Rajasthan . . . . .	32	32 (100.00)	22 (68.75)	30 (93.75)	29 (90.63)	1 (3.13)
11. Tamil Nadu . . . . .	34	24 (70.59)	14 (58.33)	14 (58.33)	6 (25.00)	—
12. Uttar Pradesh . . . . .	85	79 (92.94)	28 (35.44)	66 (83.54)	11 (13.92)	4 (5.06)
13. West Bengal . . . . .	35	35 (100.00)	—	35 (100.00)	—	—
All States . . . . .	440	394 (89.55)	173 (43.91)	328 (83.25)	105 (26.65)	34 (8.63)

Note :—Figures in bracket are percentages to total in Col. 3 and those in Col. 3 are percentages to total in Col. 2.

## Agencies through which employed and nature of work on which employed

State	Number of beneficiaries selected.	Number reporting agency Employing			Number reporting nature of work which employed		
		Deptt. of Social forestry	Panchayat	Contractor	Others	Cleaning unwanted growth	Digging of pits
1.	2.	3.	4.	5.	6.	7.	8.
1. Andhra Pradesh . . . . .	20	20 (100.00)	—	—	—	2 (10.00)	6 (30.00)
2. Bihar . . . . .	40	40 (100.00)	—	—	—	—	40 (100.00)
3. Gujarat . . . . .	39	39 (100.00)	—	—	—	4 (10.26)	23 (58.97)
4. Haryana . . . . .	40	40 (100.00)	—	—	—	—	—
5. Himachal Pradesh . . . . .	27	26 (96.30)	—	—	—	6 (22.22)	17 (62.96)
6. Jammu & Kashmir . . . . .	28	28 (100.00)	—	—	—	1 (3.57)	24 (85.71)
7. Karnataka . . . . .	35	15 (42.86)	—	20 (57.14)	—	7 (20.00)	21 (60.00)
8. Maharashtra . . . . .	23	23 (100.00)	—	—	—	—	9 (39.13)
9. Orissa . . . . .	2	2 (100.00)	—	—	—	—	1 (50.00)
10. Rajasthan . . . . .	32	32 (100.00)	—	—	—	3 (9.38)	22 (68.75)
11. Tamil Nadu . . . . .	34	18 (52.94)	—	16 (47.06)	—	8 (23.53)	25 (73.53)
12. Uttar Pradesh . . . . .	85	79 (92.94)	—	28 (32.94)	6 (7.06)	2 (2.35)	83 (97.65)
13. West Bengal . . . . .	35	—	35 (100.00)	—	—	—	35 (100.00)
All States . . . . .	440	362 (82.27)	35 (7.95)	64 (14.55)	6 (1.36)	33 (7.50)	306 (69.55)

Note:—Figures in brackets are percentages to total beneficiaries selected in Col.

State	Number reporting nature of work on which employed							
	Putting inputs	Planting	Watering	Any other	One type of job	Two types of job	Three types of job	More than 3 types of job
1	9	10	11	12	13	14	15	16
1. Andhra Pradesh	1 (5.00)	16 (80.00)	16 (80.00)	2 (10.00)	3 (15.00)	11 (55.00)	6 (30.00)	—
2. Bihar	—	31 (77.50)	10 (25.00)	5 (12.50)	9 (22.50)	16 (40.00)	15 (37.50)	—
3. Gujarat	—	33 (24.62)	10 (25.64)	17 (43.59)	11 (28.21)	8 (20.51)	20 (51.28)	—
4. Haryana	—	—	—	—	—	—	—	40 (100.00)
5. Himachal Pradesh	1 (3.70)	20 (74.07)	9 (33.33)	6 (22.22)	—	4 (14.81)	17 (62.96)	6 (22.22)
6. Jammu & Kashmir	4 (14.29)	25 (89.29)	—	11 (39.29)	2 (7.14)	14 (50.00)	12 (42.86)	—
7. Karnataka	12 (34.29)	20 (57.14)	21 (60.00)	14 (40.00)	2 (5.71)	6 (17.14)	27 (77.14)	—
8. Maharashtra	—	7 (30.43)	2 (8.70)	4 (17.39)	2 (8.70)	7 (30.43)	2 (8.70)	12 (52.17)
9. Orissa	1 (50.00)	1 (50.00)	—	—	—	—	1 (50.00)	1 (50.00)
10. Rajasthan	—	12 (37.50)	12 (37.50)	8 (25.00)	10 (31.25)	6 (18.75)	12 (37.50)	4 (12.50)
11. Tamil Nadu	2 (5.88)	27 (79.41)	3 (8.82)	7 (20.59)	6 (17.65)	12 (35.29)	14 (41.18)	2 (5.88)
12. Uttar Pradesh	—	51 (60.00)	—	30 (35.29)	29 (34.12)	31 (36.47)	25 (29.41)	—
13. West Bengal	25 (71.43)	35 (100.00)	—	—	—	10 (28.57)	25 (71.43)	—
All States	46 (10.45)	278 (63.18)	83 (18.86)	104 (23.64)	74 (16.82)	125 (28.41)	176 (40.00)	65 (14.11)

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## Instructions received, agencies imparted instructions and usefulness of instructions.

State	No. of benefi- ciaries selected	No. reported instruc- tions received	No. reported agencies imparting instruction			Number report- ing instruc- tions useful	
			Panchayat Forest/ Social Forestry Deptt.	Block	Others (contra- tors)		
1	2	3	4	5	6	7	8
1. Andhra Pradesh	20	20	—	20 (100.00)	—	—	20
2. Bihar	40	40	1 (2.50)	39 (97.50)	—	—	40
3. Gujarat	39	39	—	39 (100.00)	—	—	39
4. Haryana	40	40	1 (2.50)	39 (97.50)	—	—	40
5. Himachal Pradesh	27	27	1 (3.70)	26 (96.30)	—	—	27
6. Jammu & Kashmir	28	28	—	28 (100.00)	—	—	28
7. Karnataka	35	35	—	35 (100.00)	—	20 (57.14)	35
8. Maharashtra	23	23	—	23 (100.00)	—	—	23
9. Orissa	2	2	—	2 (100.00)	—	—	2
10. Rajasthan	32	32	1 (3.13)	32 (100.00)	—	—	32
11. Tamil Nadu	34	34	—	21 (61.76)	—	13 (44.12)	34
12. Uttar Pradesh	85	85	18 (21.18)	74 (87.06)	—	24 (28.24)	85
13. West Bengal	35	35	15 (42.86)	—	20 (57.14)	—	35
All States	440	440 (100.00)	37 (8.43)	378 (85.91)	20 (4.54)	59 (13.41)	440 (100.00)

Note : Figures in bracket show percentages to total in Col. 2

Daily average rate of wages, frequency and mode of payment

State	Number of beneficiaries selected	Average wage per day per worker Rs.	No. reporting frequency of payment			No. reporting mode of payment				
			Daily	Weekly	Fort-nightly	Month-ly	Cash Others	Kind	Both	
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh	20	6.88 (7.00 to 18.00)	—	20 (100.00)	—	—	—	20 (100.00)	—	—
2. Bihar	40	9.02 (8.50)	—	40 (100.00)	—	—	—	21 (52.50)	—	19 (47.50)
3. Gujarat	39	13.20 (9.00)	1 (2.50)	—	32 (82.05)	5 (12.82)	1 (2.50)	37 (94.87)	1 (2.50)	1 (2.50)
4. Haryana	40	8.68 (10.92) (with meals)	—	—	—	40 (100.00)	—	—	—	40 (100.00)
5. Himachal Pradesh	27	10.96 (9.28 to 10.31)	1 (3.70)	—	—	26 (96.30)	—	27 (100.00)	—	—
6. Jammu & Kashmir	28	10.20 (not fixed)	—	—	—	28 (100.00)	—	28 (100.00)	—	—
7. Karnataka	35	6.47 (5.00 to 7.50)	—	35 (100.00)	—	—	—	35 (100.00)	—	—
8. Maharashtra	23	6.52 (6.00 to 10.00)	—	22 (95.65)	—	1 (4.35)	—	23 (100.00)	—	—
9. Orissa	2	8.00 (6.00)	—	2 (100.00)	—	—	—	2 (100.00)	—	—
10. Rajasthan	32	8.50 (8.05 to 9.00)	—	—	28 (87.50)	—	4 (12.50)	32 (100.00)	—	—
11. Tamil Nadu	34	6.82 (8.00 to 11.00)	7 (20.59)	27 (79.41)	—	—	—	34 (100.00)	—	—
12. Uttar Pradesh	85	8.13 (8.00 to 9.50)	—	45 (52.94)	40 (47.06)	—	—	85 (100.00)	—	—
13. West Bengal	35	7.11 (12.00)	35 (100.00)	—	—	—	—	25 (71.43)	—	10 (28.50)
All States	440	8.59 (7.50 to 11.25)	44 (10.00)	191 (43.40)	100 (22.73)	100 (22.72)	5 (1.14)	369 (83.86)	1 (0.23)	70 (15.91)

(1) Figures in bracket in Cols. 4 to 11 are percentages to Col. 2.

(2) Figures in brackets under Col. 3 indicate the minimum wages fixed by State Governments.

Person days of employment on Social Forestry and availability of alternative sources of employment  
(1981-82)

Sl. No.	State	Number of selected beneficiaries	No. employed on Social Forestry	Average person days of employment on Forestry	Number reporting alternative sources of employment available	Average person days of employment on Social Forestry in respect of those in Col. 5	Average persons days of alternative employment available in respect of those in Col. 5
1		2	3	4	5	6	7
1.	Andhra Pradesh	20	—	—	—	—	—
2.	Bihar	40	20 (50.00)	72.85	20 (100.00)	72.85	23.45 (32.19)
3.	Gujarat	39	39 (100.00)	140.90	26 (66.67)	210.77	140.77 (66.79)
4.	Haryana	40	40 (100.00)	214.43	40 (100.00)	214.43	197.05 (91.89)
5.	Himachal Pradesh	27	26 (96.30)	186.92	25 (96.15)	190.20	27.72 (14.57)
6.	Jammu & Kashmir	28	—	—	—	—	—
7.	Karnataka	35	25 (71.43)	102.40	14 (56.00)	182.86	152.00 (83.12)
8.	Maharashtra	23	—	—	—	—	—
9.	Orissa	2	2 (100.00)	75.00	2 (100.00)	75.00	20.00 (26.67)
10.	Rajasthan	32	5 (15.63)	165.60	4 (80.00)	204.50	37.50 (18.34)
11.	Tamil Nadu	34	34 (100.00)	88.68	22 (64.71)	107.60	59.91 (55.68)
12.	Uttar Pradesh	85	30 (35.29)	30.83	30 (100.00)	30.83	23.67 (76.78)
13.	West Bengal	35	35 (100.00)	8.29	24 (68.57)	8.58	8.58 (100.00)
	All States	440	256 (58.18)	109.99	207 (80.86)	131.86	83.26 (63.22)

Note : (i) Figures in brackets in Col. 3 are percentages to total in Col. 2  
(ii) Figures in brackets in Col. 5 are percentages to figures in Col. 3  
(iii) Figures in brackets in Col. 7 are percentages to figures in Col. 6

## Person days of employment on Social Forestry and availability of alternative sources of employment (1982-83)

Sl. No.	State	Number of beneficiaries selected	Number reported employed on Social Forestry	Average per son days of employment on Social Forestry	Number reporting alternative sources of employment available	Average person days of employ- ment on Social Forestry in respect of those in Col. 5	Average person days of alternative employment available in respect of those in Col. 5
1		2	3	4	5	6	7
1.	Andhra Pradesh . . . . .	20	20 (100.00)	105.20	20 (100.00)	105.20	57.40 (54.56)
2.	Bihar . . . . .	40	40 (100.00)	143.73	40 (100.00)	142.52	63.54 (44.51)
3.	Gujarat . . . . .	39	24 (61.54)	149.96	13 (54.17)	276.85	183.46 (66.27)
4.	Haryana . . . . .	40	40 (100.00)	275.05	40 (100.00)	275.05	252.32 (91.74)
5.	Himachal Pradesh . . . . .	27	26 (96.30)	190.04	25 (86.15)	192.84	29.44 (15.27)
6.	Jammu & Kashmir . . . . .	28	28 (100.00)	35.43	4 (14.29)	26.50	9.75 (36.79)
7.	Karnataka . . . . .	35	30 (85.71)	130.07	17 (56.67)	229.53	147.65 (64.33)
8.	Maharashtra . . . . .	23	18 (78.26)	263.83	5 (27.78)	269.00	269.00 (100.00)
9.	Orissa . . . . .	2	—	—	—	—	—
10.	Rajasthan . . . . .	32	32 (100.00)	101.56	32 (100.00)	101.56	32.06 (31.57)
11.	Tamil Nadu . . . . .	34	5 (14.70)	206.00	5 (100.00)	206.00	114.00 (55.34)
12.	Uttar Pradesh . . . . .	85	85 (100.00)	37.10	69 (81.18)	40.71	27.03 (68.36)
13.	West Bengal . . . . .	35	5 (14.29)	6.00	Nil	Nil	Nil
All States . . . . .		440	353 (80.23)	126.07	270 (76.49)	146.92	90.03 (61.28)

NOTE : (i) Figures in brackets in Col. 3 are percentages to total in Col. 2  
(ii) Figures in brackets in Col. 5 are percentages to figures in Col. 3  
(iii) Figures in brackets in Col. 7 are percentages to figures in Col. 6



## Person days of employment on Social Forestry and availability of alternative sources of employment (1983-84)

Sl. No.	State	Number of selected beneficiaries	Number employed on Social Forestry	Average person days of employment on Social Forestry	Number re- perting alternative sources of employment available	Average No. of person- days of employment on Social Forestry in respect of those in Col. 5	Average person days of alternative employment available in respect of those in Col. 5.
1		2	3	4	5	6	7
1. Andhra Pradesh		20	4 (20.00)	169.75	4 (100.00)	169.75	64.25 (37.85)
2. Bihar		40	35 (87.50)	169.46	35 (100.00)	169.46	79.40 (46.85)
3. Gujarat		39	9 (23.08)	146.11	3 (33.33)	421.67	223.33 (52.96)
4. Haryana		40	38 (95.00)	255.29	38 (100.00)	255.29	233.97 (91.65)
5. Himachal Pradesh		27	26 (96.30)	156.92	25 (96.15)	161.40	31.72 (19.65)
6. Jammu & Kashmir		28	12 (42.86)	38.92	1 (8.33)	15.00	7.00 (46.67)
7. Karnataka		35	19 (54.29)	114.37	10 (52.63)	217.30	150.00 (69.03)
8. Maharashtra		23	12 (52.17)	193.42	4 (33.33)	296.25	296.25 (100.00)
9. Orissa		2	—	—	—	—	—
10. Rajasthan		32	17 (53.13)	143.47	17 (100.00)	142.59	44.59 (31.27)
11. Tamil Nadu		34	5 (14.71)	215.00	5 (100.00)	215.00	123.00 (57.21)
12. Uttar Pradesh		85	34 (40.00)	24.32	27 (79.41)	28.33	20.33 (71.76)
13. West Bengal		35	—	—	—	—	—
All States		440	211 (47.95)	146.95	169 (80.09)	173.07	106.53 (61.55)

NOTE : (i) Figures in brackets in Col. 3 are percentages to total in Col. 2  
(ii) Figures in brackets in Col. 5 are percentage to figures in Col. 3  
(iii) Figures in brackets in Col. 7 are percentages to figures in Col. 6

## Reasons for preferring wage employment on Social Forestry

State	Number reported alternative sources of employment available	Reasons for preferring wage employment on Social Forestry					
		Better wage	Nearer to place of residence	Prompt payment	Less tiresome	Employment easily available	Others
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	20	20 (100·00)	5 (25·00)	12 (60·00)	3 (15·00)	1 (5·00)	1 (5·00)
2. Bihar . . . . .	40	40 (100·00)	12 (30·00)	10 (25·00)	8 (20·00)	22 (55·00)	1 (2·50)
3. Gujarat . . . . .	26	11 (42·31)	1 (3·85)	1 (3·85)	19 (73·08)	20 (76·92)	11 (42·31)
4. Haryana . . . . .	40	—	11 (27·50)	36 (90·00)	31 (77·50)	5 (12·50)	1 (2·50)
5. Himachal Pradesh . . . . .	25	1 (4·00)	6 (24·00)	1 (4·00)	13 (52·00)	14 (56·00)	19 (76·00)
6. Jammu & Kashmir . . . . .	4	—	4 (100·00)	—	—	3 (75·00)	2 (50·00)
7. Karnataka . . . . .	22	22 (100·00)	22 (100·00)	7 (31·82)	4 (18·18)	22 (100·00)	3 (13·65)
8. Orissa . . . . .	2	—	—	2 (100·00)	—	—	—
9. Maharashtra . . . . .	7	6 (85·71)	1 (14·29)	—	2 (28·57)	—	2 (28·57)
10. Rajasthan . . . . .	32	18 (56·25)	18 (56·25)	—	21 (65·63)	11 (34·38)	9 (28·13)
11. Tamil Nadu . . . . .	22	7 (31·82)	7 (31·82)	2 (9·09)	3 (13·64)	1 (4·55)	9 (40·91)
12. Uttar Pradesh . . . . .	70	9 (12·86)	53 (75·71)	15 (21·43)	28 (40·00)	51 (72·86)	2 (2·86)
13. West Bengal . . . . .	24	—	19 (79·17)	—	—	8 (33·33)	16 (66·67)
All States . . . . .	334	134 (40·12)	159 (47·60)	86 (25·75)	132 (39·52)	158 (47·31)	76 (22·75)

Note : Figures in brackets are percentages to total in Col. 2 सत्यमेव जयते

## Yearwise average wage income from Social Forestry and other sources

Name of State	1981-82				1982-83		
	No. of benefici- aries worked on SF	Average income from SF	Average total wage income from all sources	% of Col. 3 to Col. 4	No. of benefi- ciaries worked on SF	Average wage income from SF	Average total wage income from SF
1	2	3	4	5	6	7	8
1. Andhra Pradesh . . . . .	—	—	—	—	20	678	3966
2. Bihar . . . . .	20	439	1450	30·28	40	1211	2801
3. Gujarat . . . . .	39	1174	3733	31·45	24	1476	3709
4. Haryana . . . . .	40	1984	4671	42·47	40	2536	4994
5. Himachal Pradesh . . . . .	26	1486	4098	36·26	26	1690	4368
6. Jammu & Kashmir . . . . .	—	—	—	—	28	279	3016
7. Karnataka . . . . .	25	528	1588	33·25	30	778	2569
8. Maharashtra . . . . .	—	—	—	—	18	1492	4087
9. Orissa . . . . .	2	200	2943	6·80	—	—	—
10. Rajasthan . . . . .	5	1490	5320	28·01	32	903	4014
11. Tamil Nadu . . . . .	34	540	2292	23·56	5	973	2830
12. Uttar Pradesh . . . . .	30	295	3372	8·75	85	325	3296
13. West Bengal . . . . .	35	60	2707	2·22	5	39	2271
All States . . . . .	256	871	3180	27·39	353	1027	3578



Name of State	1982-83		1983-84		
	% of Col. 7 to Col. 8	No. of benefi- ciaries worked on SF	Average income from SF	Average total wage income from SF	% of Col. 11 to Col. 12
1	9	10	11	12	13
1. Andhra Pradesh . . . . .	17.10	4	1243	3438	36.15
2. Bihar . . . . .	43.23	35	1443	3105	46.47
3. Gujarat . . . . .	39.80	9	1855	5236	35.43
4. Haryana . . . . .	50.78	38	2361	5078	46.49
5. Himachal Pradesh . . . . .	38.69	26	1385	4528	30.59
6. Jammu & Kashmir . . . . .	9.25	12	252	2538	9.93
7. Karnataka . . . . .	30.28	19	676	2652	25.49
8. Maharashtra . . . . .	36.51	12	1152	3923	29.37
9. Orissa . . . . .	—	—	—	—	—
10. Rajasthan . . . . .	22.50	17	1291	4853	26.60
11. Tamil Nadu . . . . .	34.38	5	1036	3018	34.33
12. Uttar Pradesh . . . . .	9.86	34	192	3155	6.09
13. West Bengal . . . . .	1.72	—	—	—	—
All States . . . . .	28.70	211	1238	3853	32.13



## Changes if any, in Monthly Expenditure on fuelwood, fodder and Small timber

State	Number reporting use of fuelwood	Expenditure on fuel wood			Number Reporting use of fodder
		No. change	Increased	Decreased	
1	2	3	4	5	6
1. Andhra Pradesh . . . . .	19	19 (100.00)	—	—	7
2. Bihar . . . . .	40	40 (100.00)	—	—	23
3. Gujarat . . . . .	39	36 (92.31)	3 (7.69)	—	23
4. Haryana . . . . .	21	21 (100.00)	—	—	28
5. Himachal Pradesh . . . . .	27	27 (100.00)	—	—	26
6. Jammu & Kashmir . . . . .	28	24 (85.71)	4 (14.29)	—	28
7. Karnataka . . . . .	35	30 (85.71)	—	5 (14.29)	21
8. Maharashtra . . . . .	23	22 (96.65)	1 (4.35)	—	13
9. Orissa . . . . .	2	2 (100.00)	—	—	2
10. Rajasthan . . . . .	32	31 (96.88)	1 (3.12)	—	26
11. Tamil Nadu . . . . .	34	33 (97.06)	—	1 (2.94)	13
12. Uttar Pradesh . . . . .	74	61 (82.42)	11 (14.86)	2 (2.71)	65
13. West Bengal . . . . .	35	5 (14.29)	30 (85.71)	—	14
All States . . . . .	409	351 (85.82)	50 (12.22)	8 (1.96)	289

## Notes :

- (i) Figures in brackets in col. 3 to 5 are percentages to total in col. 2.
- (ii) Figures in brackets in cols. 7 to 9 are percentages to total in col. 6
- (iii) Figures in brackets in col. 11 to 13 are percentages to total in col. 10.

State	Expenditure on fodder			Number reporting use of small timber	Expenditure on small timber		
	No. change	Increased	Decreased,		No change	Increased	Decreased
1	7	8	9	10	11	12	13
1. Andhra Pradesh . . . . .	7 (100.00)	—	—	20	16 (80.00)	4 (20.00)	—
2. Bihar . . . . .	23 (100.00)	—	—	40	40 (100.00)	—	—
3. Gujarat . . . . .	19 (82.61)	4 (17.39)	—	39	36 (92.31)	3 (7.69)	—
4. Haryana . . . . .	20 (100.00)	—	—	34	29 (85.29)	5 (14.71)	—
5. Himachal Pradesh . . . . .	20 (76.92)	1 (3.86)	5 (19.23)	27	27 (100.00)	—	—
6. Jammu & Kashmir . . . . .	16 (57.14)	12 (42.86)	—	28	28 (100.00)	—	—
7. Karnataka . . . . .	17 (80.95)	3 (14.29)	1 (4.76)	35	23 (65.71)	8 (22.86)	4 (11.43)
8. Maharashtra . . . . .	9 (69.23)	4 (30.77)	—	23	12 (52.17)	11 (47.83)	—
9. Orissa . . . . .	2 (100.00)	—	—	2	—	2 (100.00)	—
10. Rajasthan . . . . .	24 (92.31)	2 (7.69)	—	21	17 (80.95)	4 (19.05)	—
11. Tamil Nadu . . . . .	13 (100.00)	—	—	33	15 (45.46)	16 (48.48)	2 (6.06)
12. Uttar Pradesh . . . . .	61 (93.85)	4 (6.15)	—	85	65 (76.47)	20 (23.53)	—
13. West Bengal . . . . .	12 (85.71)	2 (14.29)	—	31	18 (58.06)	13 (41.94)	—
All States . . . . .	251 (86.85)	32 (11.07)	6 (2.08)	418	326 (77.99)	86 (20.57)	6 (1.44)

## Views on implementation of the Programme' Difficulties experienced and suggestions for improvement

State	No. of beneficiaries selected	Number reporting preprogramme implemented		Number reporting difficulties observed in programme implementation		
		Properly	Not properly	Dead plants not replaced	No physical protection provided to the plants	irrigation facilities not provided
1	2	3	4	5	6	7
1. Andhra Pradesh . . . . .	20	13	7 (35.00)	3 (42.86)	3 (42.85)	
2. Bihar . . . . .	40	—	40 (100.00)	—	29 (72.50)	30 (75.00)
3. Gujarat . . . . .	39	13	26 (66.67)	3 (11.54)	—	4 (15.38)
4. Haryana . . . . .	40	40	—	—	—	—
5. Himachal Pradesh . . . . .	27	25	2 (7.41)	—	—	1 (50.00)
6. Jammu & Kashmir . . . . .	28	28	—	—	—	—
7. Karnataka . . . . .	35	28	7 (20.00)	—	—	1 (14.28)
8. Maharashtra . . . . .	23	18	5 (21.74)	5 (100.00)	3 (60.00)	—
9. Orissa . . . . .	2	2	—	—	—	—
10. Rajasthan . . . . .	32	12	20 (62.50)	11 (55.00)	7 (35.00)	12 (60.00)
11. Tamil Nadu . . . . .	34	15	19 (55.88)	2 (10.53)	4 (21.05)	1 (5.26)
12. Uttar Pradesh . . . . .	85	26	56 (65.88)	18 (32.14)	20 (35.71)	33 (58.93)
13. West Bengal . . . . .	35	—	35 (100.00)	6 (17.14)	35 (100.00)	8 (22.86)
All States . . . . .	440	223	217 (50.68)	48 (22.12)	101 (46.54)	90 (41.47)

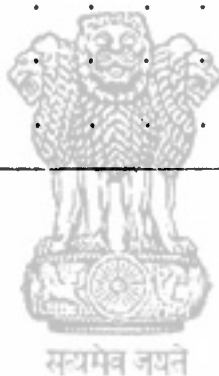
Note : Figures in bracket in Cols. 5 to 17 are percentages to Col. 4.

State	Number reporting difficulties observed in programme implementation			Number giving suggestions for improvement			
	Insecticide/ pesticides not arranged	Any other	No. reply	dead plants be replaced	Physical protection be provided	Irrigation facilities be provided	Insecticides pesticides be arranged
1	8	9	10	11	12	13	14
1. Andhra Pradesh . . . . .	—	—	1 (14.28)	4 (57.14)	4 (57.14)	—	—
2. Bihar . . . . .	—	7 (17.50)	—	—	29 (72.50)	30 (75.00)	—
3. Gujarat . . . . .	—	—	19 (73.07)	3 (11.53)	—	4 (15.38)	—
4. Haryana . . . . .	—	—	—	—	—	—	—
5. Himachal Pradesh . . . . .	—	2 (10.0)	—	—	—	1 (50.00)	—
6. Jammu & Kashmir . . . . .	—	—	—	—	—	—	—
7. Karnataka . . . . .	—	1 (14.28)	5 (71.43)	—	—	1 (14.28)	—
8. Maharashtra . . . . .	—	—	—	5 (100.00)	3 (60.00)	—	—
9. Orissa . . . . .	—	—	—	—	—	—	—
10. Rajasthan . . . . .	1 (5.00)	3 (15.00)	—	11 (55.00)	7 (35.00)	13 (65.00)	4 (5.00)
11. Tamil Nadu . . . . .	—	11 (5.26)	11 (57.89)	2 (10.53)	4 (21.05)	1 (5.26)	—
12. Uttar Pradesh . . . . .	8 (14.28)	5 (8.93)	—	19 (33.93)	13 (23.21)	32 (57.14)	8 (14.28)
13. West Bengal . . . . .	3 (8.57)	2 (5.71)	—	6 (17.14)	32 (91.43)	8 (22.86)	3 (8.57)
All States . . . . .	12 (5.53)	21 (9.68)	36 (16.59)	50 (23.04)	92 (42.40)	90 (41.47)	12 (5.53)

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State	Number giving suggestions for improvement		
	Chowkidar be employed	Any other	No. suggestion
1	15	16	17
1. Andhra Pradesh . . . . .	3 (42.86)	—	1 (14.28)
2. Bihar . . . . .	19 (47.50)	—	—
3. Gujarat . . . . .	—	—	19 (73.07)
4. Haryana . . . . .	—	—	—
5. Himachal Pradesh . . . . .	2 (100.00)	2 (100.00)	—
6. Jammu & Kashmir . . . . .	—	—	—
7. Karnataka . . . . .	—	1 (14.28)	5 (71.43)
8. Maharashtra . . . . .	—	1	—
9. Orissa . . . . .	—	(20.00)	—
10. Rajasthan . . . . .	2 (10.00)	2 (10.00)	—
11. Tamil Nadu . . . . .	1 (5.26)	1 (5.26)	11 (57.89)
12. Uttar Pradesh . . . . .	14 (25.00)	4 (7.14)	—
13. West Bengal . . . . .	18 (51.43)	1 (2.86)	—
All States . . . . .	59 (27.19)	12 (5.53)	36 (16.59)



## CHAPTER VII

### SUMMARY OF FINDINGS AND RECOMMENDATIONS

Various aspects of Social Forestry like planning process, programme implementation, adoption of Farm Forestry and impact of the Programme on income and employment generation have been analysed in Chapters III to VI on the basis of the data collected in course of the Evaluation study. Summary of the main findings and recommendations are given below :

#### *Programme Implementation*

7.2 In 16 selected Divisions Social Forestry was implemented by the regular Territorial/Afforestation Divisions of the Forest Department in addition to their normal workload without any extra staff support. In a few cases, however, extra staff under specific schemes like Rural Fuelwood plantation, Minimum Needs Programme etc. were sanctioned and posted. (Para 3.4)

7.3 In eleven States, the existing strength of the staff, especially at the lower levels, was not considered adequate for successful implementation of the Programme, whereas in the rest five States, the staff strength, atleast the sanctioned strength, was adequate. (Para 3.7)

7.4 In the States where Social Forestry was implemented by the regular Forest Department officials the existing staff at the Range and the further lower levels were thoroughly overworked with normal regulatory functions of forest management and therefore, it was hardly possible for them to implement Social Forestry, in addition to their normal duties. Moreover, the Forest Officials at the lower echelons of the set-up because of the very nature of their work connected with regulatory management of forest resources, perhaps could not be regarded as ideal agency to motivate villagers to adopt Social Forestry. (Para 3.8)

7.5 The extension & motivation staff at the grass roots considered essential for successful implementation of the Programme were not appointed in six States. In other States such posts were created, but filled up partially. (Para 3.9)

7.6 In sixteen selected Divisions, the officials at various levels engaged in the implementation of Social Forestry did not receive any training in Social Forestry. No permanent arrangements for training of the Social Forestry Officials were created in the selected Divisions, although for proper motivation of staff to Social Forestry work training in extension methodology and rural sociology was considered essential. In some of the selected Divisions the Programme suffered, for the staff at the lower levels could not be motivated for want of training. (Paras 3.11 & 3.12)

7.7 Posting in the Social Forestry Organisations from regular forestry operations was not generally pre-

ferred by the Forest Department officials. For proper motivation of staff posted in the Social Forestry Organisations extra monetary incentives may be considered for the officials posted at Range level and below. As far as possible, responsibility for implementation of Social Forestry should not be entrusted to the regular Forest Department. Separate trained staff should be provided at all levels, including extension and motivation staff at the grassroots. (Para 3.13)

7.8 In eight States the implementing agencies had adequate time for work preparatory to launching of the Social Forestry Programme. In one State, though adequate time was available, sufficient time could not be given to advance preparatory work for all schemes, as the same staff were responsible for all Social Forestry Programmes. In other eight States no advance preparatory work was possible due to various reasons, the major ones being delayed sanction of funds, implementation of many schemes in haste at a time, non-identification of the Programme areas due to time constraints and non-identification of land for setting up adequate number of Nurseries for raising seedlings. (Paras 3.14 & 3.15)

7.9 In a few States implementation of the Programme was affected due to lack of coordination between the Forest Department and the Block Agencies. After seedlings were distributed, practically no follow-up action was taken up by the implementing agencies, in almost all the States, for getting feed back on implementation through regular field visits. (Para 3.18)

7.10 In addition to free supply of seedlings special incentive schemes were also implemented in some of the States as measures of popularising the Programme on Community as well as on individual land. To encourage proper upkeep and maintenance of plantations, cash subsidies to the farmers on the basis of survival of plants at the end of a particular period were also granted in a few States. (Paras 3.19, 3.20 & 3.21)

7.11 In five States no efforts were made for research and development of species of trees suitable for particular agro-climatic zones, keeping in view the problems of depletion of soil nutrient and fall in water tables. In other States some work was being done to evolve new species suitable to the local conditions. (Paras 3.22 & 3.23)

7.12 The size of some of the selected Nurseries was very small, whereas they were required to cover a very wide area in terms of number of villages. Some of the selected Nurseries, covering more than 100 villages each, had also worked much below capacity. The fact that these Nurseries reportedly met requirement of the area in full only reflected lack of adequate

demand for seedlings from the farmers in the area. This in turn brought to light inadequacy of extension work to motivate the farmers to Farm Forestry. There is need for vigorous extension work, especially at the grass-roots, for stepping up progress of achievements under the Programme. (Paras 3.29, 3.30 & 3.31).

7.13 In a few States the beneficiaries under Farm Forestry were primarily big farmers whereas the Programme was essentially meant for small and marginal farmers. As many as 46 per cent of the farmers, each of whom was given seedlings between 501 and 1000 by the selected Nurseries during 1982-83, were from two States only. Similarly one third of the total farmers who were given 101 to 500 seedlings each by the selected Nurseries during 1983-84 were from one State. Limiting maximum number of plants that should be distributed to the farmers under the Programme would help correct this top sided achievements. (Paras 3.32 & 3.33)

7.14 To prevent wastage of seedlings after the same are supplied to the farmers, the supply should be priced. Seedlings to small, marginal farmers and other weaker sections of the Society may be supplied free upto a certain limit and beyond that limit supply should be priced. (Para 3.36)

7.15 The existing arrangements for raising and distribution of seedlings to the farmers was utterly inadequate to support the massive tree plantation Programme. There is need for setting up more nurseries in rural areas for wider coverage. For quick and large scale multiplication of seedlings without any impairment in quality, technological innovations like tissue culture should be encouraged. (Para 3.38)

7.16 Wide divergence was perceived between two sets of physical achievements data under Centrally sponsored Social Forestry including Rural fuelwood Plantation Programme as collected in course of the Evaluation study and the same compiled by the Ministry. For a few States no logical basis of compilation of physical achievements data was available, in the absence of which veracity of the data furnished by the implementing agencies could not be vouchsafed. (Paras 3.39 & 3.40)

7.17 In a few States actual seedlings distributed was reported to be more, in some cases more than double, than what was targeted for. The data base of the Programme was not properly maintained in some of the States. Number of seedlings distributed appeared to have been inflated out of proportion in a few cases. In one State, physical achievements in terms of seedlings distributed and area brought under plantations seemed to have been over rated in as much as actual expenditure incurred on the Programme appeared to be very low as compared to the cost of the Programme in other States. In at least five States where there was either dearth of or acute shortage of encroachment free public/panchayat land, large scale reforestation of degraded forest land was attempted under the Programme in order to show accomplish-

ment of the targets fixed. In two States, where Externally-Aided Social Forestry Programme was one or two years old, achievements under Farm Forestry was quite remarkable. (Paras 3.41 to 3.43)

7.18 In five States, funds were sanctioned in time, whereas in a few States, the Programme suffered due to delayed release of funds. In five States, the Programme suffered due to late release of funds by the District Rural Development Agencies (DRDA) under Social Forestry Components of National Rural Employment Programme (NREP) Drought Prone Area Programme (DPAP) etc. Funds for raising of seedlings in the nurseries should be made available well in time, by December/January at the latest.

(Para 3.46)

7.19 Detailed guidelines for the functionaries at different levels engaged in the implementation of Social Forestry were issued only in a few States. In one State the DRDA arranged bank loans for a few joint farming societies of Scheduled Castes & Tribes to whom Govt. wasteland was allotted for the plantation programme for creating infrastructure for irrigation. In another State, Coordination with the DRDA and other agencies was ensured through posting of an officer of the rank of Divisional Forest Officer at the State Headquarters. In other States the DRDA had very little functional linkage with the implementing agencies, except for providing funds stipulated under Social Forestry components of NREP, DPAP etc. In one State implementation of the Programme suffered as the block officials failed to ensure distribution of seedlings to farmers after seedlings were dumped at the appointed sites. In another State the functionaries of the Social Forestry Organisation and the Agriculture Departments worked sometimes at cross purposes which was not conducive to smooth working of the Programme. In another State though target setting under Social Forestry was the responsibility of the DRDA, headed by the Collector, the Divisional Forest Officer incharge of implementation of the Programme, being not a member of the DRDA, was not consulted in the matter. Linkage at the block level through block level meetings was however reported from five States. (Paras 3.47 & 3.48)

7.20 Monitoring and Evaluation Cell under Social Forestry was either created or the existing ones revamped in all the States, barring one. Its activities were mainly confined to progress reporting. However, in a few States evaluation studies were conducted either by the Evaluation Cell or by other outside agencies. The scope and coverage of the evaluation studies varied widely among the States. (Paras 3.49 to 3.51)

7.21 Involvement of voluntary agencies in Social Forestry appeared to be not very substantial. In as many as 20 out of 32 selected Divisions no involvement of voluntary agencies was reported. In other selected Divisions voluntary agencies helped either in motivation work or in the distribution of seedlings and in a few cases, in raising of the nurseries for distribution of seedlings. (Paras 3.52)

7.22 In most of the States Social Forestry, by and large, was designed to be implemented primarily through the officials efforts. The Programme failed to motivate voluntary agencies at the grassroots to get involved in the Programme in a big way. The voluntary organisations should be increasingly associated with the implementation of the Programme. However, the capabilities of dynamic voluntary organisations to handle the specific tasks should be assessed in advance. If necessary given their individual capacity, voluntary organisations may be encouraged to adopt a group of villages for tree plantation programme.

(Para 3.53)

7.23 In some of the States like Andhra Pradesh, Assam, Kerala, Orissa and Uttar Pradesh practically no follow-up action or after care measures were taken by the implementing agencies at the grassroots after seedlings were distributed, which resulted in higher plant mortality under the Farm Forestry Programme. The voluntary agencies could be mobilised to take up the job through requisite training.

(Para 3.54)

7.24 The implementation of Social Forestry was greatly hamstrung by the absence of a strong and efficient organisation at grass-root levels to motivate people. The role of the Block agencies in this regard was perceived to be almost minimal.

(Para 3.55)

7.25 For successful implementation of Social Forestry there should be an integrated approach involving all concerned Departments for coordinated action. Target setting under various components of the Programme should be the responsibility of the District Level Committee, to be reconstituted as an integrated administrative machinery, where as technical support extension and motivation work should be provided by the implementing agencies. The Programme at the grassroots should be implemented through block and village level committees with people's participation at all levels. (Para 3.56)

7.26 The implementing agencies should take up, in close collaboration with the Block agencies, proper follow-up measures like advice on aftercare, watering, plant protection measures etc., atleast for two years after distribution of seedlings. Incentives in the form of fertilisers and insecticides should also be distributed free as far as possible to small, marginal farmers and weaker sections of the Society. (Para 3.57)

#### *Plantations on Public Land*

7.27 For protection of community strip plantations, proper authority to ensure protection was not evolved in any State. However, in some States, public plantations alongside roads, canals and railwaylines were declared as protected areas under the Forest Act. Local arrangements for protection of plants by engaging watchmen, made in a few States, did not prove to be very effective. (Para 4.5)

7.28 Strip plantations on public land had not yet matured in most of the States. Some informal arrangements had however, been worked out in a few States for sharing of the produce of public plantations as and when matured. (Para 4.6)

7.29 The incentive schemes being followed in a few States to provide inducements to raise plantations on public land did not evoke good response from the farmers and panchayat leaders. (Paras 4.8 & 4.9)

7.30 The accelerated growth in construction and house building activities in the country in the coming decade, resulting in ever increasing demand for major forest produce, would aggravate in near future the problems of faster rate of exploitation of forest resources without allowing sufficient time for natural regeneration. Such eventually would presage the risk of major share of the additional supplies from harvest of the produce of Social Forestry being diverted towards meeting the demand of construction industries. To derive the basic goal of social forestry, viz., to make available fuelwood and fodder to the rural poor, it is imperative to devise a system to ensure that supplies from harvest of the produce of plantations under Farm/Social Forestry are not diverted to meet the extra requirement of industrial users of forest produce. They could be permitted to expand their activities on condition that they raise captive plantations on specifically demarcated compact areas of degraded forest or waste land, with technical support from the Forest Department, if necessary, to meet their extra requirements of forest based raw material. However, care should be taken to ensure that large scale captive plantations by industrial units do not in any way affect the complex vegetative balance or yield of the crops in the surrounding areas. (Paras 4.11 to 4.14)

7.31 Although one of the main thrust areas of Social Forestry was to raise block plantations and village forestry on public and community wasteland outside forest areas, the Evaluation study brought out very little performance in this regard. Of 256 selected villages block plantations on public and Community Land were raised in 23 (nine per cent) villages. While in a few States the panchayats were either not inclined to handover village grazing/community land for raising block plantations, or they hardly owned any land on which public plantations could be raised, in some other States the Programme was greatly hampered due to acute scarcity of encroachment free public land. (Para 4.20)

7.32 The Panchayats hardly took any initiative in raising block plantations on public land. The Forest Department which took initiative in this regard did most of the work connected with plantations, starting from selection and preparation of sites, to actual plantation and its maintenance for the first few years. (Para 4.21)

7.33 In the selected villages where Forest Department was responsible for raising block plantations, survival percentage of plants was decidedly better due

to close supervision over planting operations, proper aftercare measures and watering of plants at proper time. In a few cases, where the panchayats were responsible for raising block plantations, survival rate was much less due to lack of maintenance and after-care measures. (Para 4.28)

7.34 The produce of block plantations had not yet started materialising and except for some formal arrangements in a few States, no arrangements for distribution of the produce had been evolved. However, in any future arrangements for distribution of the produce of block plantations and village forestry, it would be vitally important to win the confidence of the rural poor and other economically weaker sections of the society and to ensure that their interest is adequately safeguarded. (Para 4.36)

#### *Beneficiary Households—Farm Forestry*

7.35 In 34 per cent of the selected villages, the number of adopters of Farm Forestry actually available for canvassing the structured schedule was less than the minimum number of five adopters per villages. This tends to suggest that the Programme failed to receive adequate response from the farmers in those areas. In some cases, the beneficiaries selected on the basis of the distribution registers maintained by the implementing agencies, were not traceable at all in the selected villages, whereas in a few other cases the respondents were found to have not received any benefits under the Programme. The system of maintenance of records, especially distribution registers of seedlings, needed to be considerably improved in most of the States. (Para 5.2)

7.36 Out of 907 selected beneficiaries 86 per cent had planted seedlings only once and remaining 14 per cent repeated planting in subsequent years also. In 1980-81, the first year of the Centrally sponsored Programme of Rural Fuelwood Plantation, only six beneficiaries, three each in two States, adopted the Programme. (Para 5.5)

7.37 Seventy four per cent of the selected beneficiaries reported involvement of adult male family members in Farm Forestry work, whereas 25 per cent had reported female members' involvement in Farm Forestry. As regards the extent of participation no involvement of any family members in the plantation work, whereas in another three States no female family members of the respondents participated in Farm Forestry. As regards the extent of participation by female family members of the respondents Haryana reported highest percentage (67 per cent), followed by Maharashtra (64 per cent). (Paras 5.6 & 5.7)

7.38 Although 836 (92 per cent) sample beneficiaries had agriculture holdings of varying sizes only 250 (30 per cent) raised plantations on a part of their agricultural holdings, the rest having planted trees on boundaries and backyards only. (Para 5.9)

7.39 The average area under Farm Forestry per reporting beneficiary household at the end of 1983-84 was 0.45 hect. The highest average area under

Farm Forestry was from Gujarat in all the years 1980-84. In 1981-82 the next highest average area under Farm Forestry was reported from Karnataka and in 1982-83 and 1983-84 from West Bengal (Para 5.10)

7.40 About 56 per cent of the total area brought under Farm Forestry over the period by the selected beneficiaries were earlier used for raising different crops. The shift from cropped area to Farm Forestry was highest in absolute term in 1981-82, 47.2 hect. out of 77.1 hect., about 61 per cent. In 1983-84 also, although 11.2 hect. of crop land was diverted to Farm Forestry, the area formed 72 per cent of the total area brought under Farm Forestry. The evaluation study unfolded a tendency on the part of the selected farmers in some of the States to divert cropped area to more remunerative uses of raising Eucalyptus without any risk of damage associated with cultivation of other agricultural crops. (Paras 5.12 & 5.13)

7.41 The Forest Department played the prime role in disseminating the knowledge of Social Forestry in as much as more than two-thirds of the sample beneficiaries learnt about the Programme through them. Eighty seven per cent of the respondents were also contacted by the Forest Department for adoption of the Programme. In one State, however, 78 per cent of the selected beneficiaries came to know about the Programme through Radio, T.V. and News-papers. The Block agency played no significant role in as many as eight States, as no sample beneficiaries were approached by them for adoption of the Programme. Their role in spreading the message of Social Forestry, let alone persuading the farmers to adopt the Programme, was also quite insignificant in other States. (Paras 5.14 to 5.16)

7.42 The Block agency being in close contact with the farmers at the grassroots should be increasingly involved in extension and motivation work, especially in areas where people are still not well aware of the existence of the Programme. (Para 5.17)

7.43 A little over 50 per cent of the respondents adopted the Programme with the prospect of getting small timber and fuelwood, whereas one third of them were attracted to the Programme to earn extra income through sale of produce. Fifty to ninety per cent of the respondents in four States adopted the Programme to earn extra income. About fifteen per cent of them also adopted the Programme for getting fruits and fodder. Since most of the sample beneficiaries procured fodder mainly from non-commercial sources the prospects of easy availability of fodder do not appear to have sufficient motivation for them to adopt the Programme. (Paras 5.19 & 5.20)

7.44 More than 75 percent of the selected beneficiaries had been tendered advice by one agency or the other on appropriateness of the season, site preparation, selection of plants, methods of plantation including spacing, whereas about 57 per cent of them were advised on proper application of fertiliser and insecticides. As expected, the Forest Department officials Advised about 80 per cent of the sample

beneficiaries advised by any agencies on different planting operations, rendered, by and large, through meetings and group discussions in nine States, whereas in other five States individual contact and persuasion was mostly reported. In two States advices were mainly given through films/photograph shows, demonstrations and distribution of pamphlets. The advices were considered useful by almost all the selected beneficiaries. (Paras 5.21 to 5.24)

7.45 About three-fourths of the selected beneficiaries were given directions on different nature of work for advance site preparations. Out of them about ten per cent did not follow directions, major reasons being lack of money for buying fertilisers and pesticides, scarcity of water for irrigation and indifferent attitude of the respondents to the directions given (Paras 5.25 & 5.26)

7.46 About 65 per cent of the sample beneficiaries applied inputs like manures, fertilisers and insecticides, out of whom only 38 (six per cent) were supplied inputs by the Forest Department. In one State 34 (65 per cent respondents received free inputs as subsidy from the Forest Department under Externally Aided Programme. More than 97 per cent of the sample beneficiaries received seedlings from the forest nurseries. Eighty six per cent of them had to carry seedlings from a distance of one km. and above. Out of them 43 per cent had to travel more than 5 hrs. for collecting seedlings from the forest nurseries. In six States more than 50 per cent of the respondents had to collect seedlings from beyond 5 kms. About one-third of the respondents experienced transport difficulties in collecting seedlings from distance sources. It was stressed by the respondents that seedlings should be made available at the plantation sites for which more nurseries should be set up. Paras 5.29 & 5.30)

7.47 Eucalyptus was most commonly grown by about two-thirds of the selected beneficiaries. In as many as ten States, 70 to 100 per cent of the selected beneficiaries planted Eucalyptus. Next in order of preference were other local varieties grown by 43 per cent of the sample beneficiaries, followed by fruit trees planted by about 23 per cent of them. (Paras 5.38 & 5.39)

7.48 The most common reason advanced for indicating preference for particular species being that the particular species were commercially suitable. The main objectives of the Programme to provide fodder, fuelwood and small timber to the rural poor appeared to have taken a back seat as far as the choice of the species of the selected beneficiaries in concerned. (Para 5.40)

7.49 About 14 per cent of the selected beneficiaries reported short supply of seedlings upto 75 per cent of their requirement during 1981-82. The ratio of such beneficiaries rose to about 20 per cent at the end of 1982-83, whereas at the end of 1983-84 only about 12 per cent of the sample beneficiaries reported short supply of seedlings. Shortage of plants at the nurseries was primarily responsible for shortfall in supplies to the farmers. (Paras 5.42 & 5.43)

7.50 The seedlings after being planted needed to be nurtured and taken care of for the first few years. More and more selected beneficiaries reported lower survival percentage of the seedlings in subsequent years and the plants suffered from higher mortality at the end of each subsequent year, following the year of plantation. For the plantation year 1983-84 survival percentage at the end of the planting season was however, comparatively better. The extent of damage to the plants was attributed to several causes. Scarcity of water browsing of plants by animals and attack of pests and insects were the major causes of plant mortality. (Paras 5.45 to 5.47)

7.51 To prevent browsing of plants by stray cattle stall, feeding of cattle as far as possible should be encouraged by growing grass and other fodder plantations in public and panchayat land in and around the village. Unrestricted grassing of animals should be regulated in the village under supervision of the local panchayat so that grazing could be restricted to a pro-demarcated limited area at a time. (Para 5.48)

7.52 Sixty one per cent of the sample beneficiaries reported to have received advice on after care measures. Almost all of them considered advice useful, although 14 per cent of them did not follow advice due to lack of finance and scarcity of water needed to irrigate plants. (Para 5.49)

7.53 About two-thirds of the sample beneficiaries reported to have taken physical protective measures for the plants raised. About one-fourth of them did not need any physical protective measures and 12 per cent could not afford it. Lack of finance was reported to be the main cause for not following protective measures. A few respondents from two States were also not sure about survival of their plants due to scarcity of water. Hence no protective measures were taken. (Para 5.50)

7.54 Only 38 per cent of the sample beneficiaries received advice on plant protection measures, while the rest had no knowledge as to whether any such measures were prescribed. About 77 per cent of the respondents who received advice on plant protection measures considered such advice useful. A sizeable number of the selected beneficiaries in six States reported termite attack on their plants. No significant aftercare measures to combat pests attack on plants appeared to have been taken up by the implementing agencies.

(Para 5.51)

7.55 There was no remarkable variation in the major sources of fuelwood, fodder and small timber for the sample beneficiaries, after the adoption of the Programme. About 86 per cent of them procured fuelwood from non-commercial sources before the adoption of the Programme. All of them continued to

do so after the Programme was adopted. Hardly 6 per cent of the respondents procured fodder from market, the rest procuring from non-commercial sources, at both points of time. About 34 per cent and 13 per cent of the sample beneficiaries depended on nearby forests as primary sources of fuelwood and fodder respectively, both before and after the Programme. For small timber, about 28 per cent depended on nearby forests at both points of time.

(Para 5.53)

7.56 In 43 per cent cases, male members of the respondents' family normally went out to fetch fuelwood and fodder. Women members normally went out in about 22 and 16 per cent cases for collection of fuelwood and fodder respectively.

(Para 5.54)

7.57 The distance of sources of fuelwood and fodder had not shortened for the selected beneficiaries to any appreciable extent, following adoption of the Programme. As a matter of fact Social Forestry had not brought about any substantial relief to the selected beneficiaries in the form of lesser distance they had to trudge for collection of fuelwood and fodder. The number of respondents who had to travel less than one km. and beyond three kms. for collection of fuelwood and fodder had slightly reduced after adoption of the Programme, whereas more respondents had to cover between one and three kms. for collection of fuelwood and fodder after the adoption of the Programme. The increase was more pronounced in Himachal Pradesh. The Programme so far failed to reduce daily toil, the selected respondents had to do in terms of person hours spent for meeting their fuelwood and fodder needs both before and after the Programme was adopted. The position more or less remained static. In Himachal Pradesh, however, the respondents on average had to work for about 11 hours per week for meeting their fodder needs after adoption of the Programme, as against 8.56 hours they worked before. The increasing toil the respondents had to do was due to gradual shrinkage of grazing facilities in and around the villages. As a result they had to cover more distance.

(Paras 5.56 to 5.59)

7.58 Only a small fraction of the selected beneficiaries reported any improvement in the availability of fuelwood, fodder and small timber. In most of the cases the plants had not yet fully matured for the purposes for which they were primarily intended and in about 12 per cent cases the situation did not improve due to plants mortality.

(Para 5.60)

7.59 Farm Forestry provided average employment of 52 person days during 1983-84 to each of 634 sample beneficiaries (70 per cent) in 14 States, which contributed to 10.6 per cent of total employment on own work. Such employment generation on own farm however, did not bring forth *pari passu* additional income generation. Employment generation on Farm Forestry was highest in West Bengal. The average income during 1983-84, including income from Farm

Forestry, recorded a growth of 10 per cent over the income for the year immediately before the adoption of the Programme. The growth was highest in Himachal Pradesh.

(Paras 5.62 to 5.64)

7.60 Average wage employment and income from Social Forestry contributed to about 46 per cent and 53 per cent of total wage employment and income respectively for each of 37 respondents in eleven States during 1983-84, vis-a-vis the year immediately before adoption of the Programme. The ratio of income and wage employment through Social Forestry to total income and wage employment was highest in Andhra Pradesh.

(Para 5.65)

7.61 About two-thirds of the sample beneficiaries reported that they were satisfied with the Programme as small timber, fuelwood and fodder would be available in plenty in near future. Lack of finance, irrigation facilities and cost constraints were cited as major reasons by about 24 per cent of the sample beneficiaries who were not satisfied with the Programme.

(Paras 5.67 & 5.68).

7.62 About 41 per cent of the respondents were in favour of subsidy to be given for fencing around the plants and another 37 per cent needed regular guidance on follow up measures. About 10 per cent of the respondents were not willing to take up plantation on continuous basis the main reasons advanced being lack of finance, high incidence of pests/insects attack on plants and deleterious effect of Farm Forestry on growth of other crops in the surrounding areas.

(Paras 5.69 & 5.70)

#### *Beneficiary households—landless labour*

7.63 As against the expected sample size of 1280 landless labour beneficiaries at the rate of five per selected village, who had worked on block plantations on panchayat and public land during 1981-82 or in 1982-83, when the Programme was implemented after 1981-82, only 445 could be selected, not only in the selected villages but also within a radius of five to eight kms. from the selected villages. Out of 445 selected beneficiaries 440 were actually available for canvassing the schedules. In only nine per cent of the selected villages block plantations on public/community land were raised.

(Para 6.1)

7.64 Except in one State, the selected beneficiaries had worked on strip plantations alongside roads in all other States. Fifty four per cent of them reported employment alongside roads and 25 per cent worked on block plantations on panchayat land.

(Para 6.3)

7.65 In initial year 1980-81, the beneficiaries were provided employment on public plantations in four States only, who were employed in subsequent years



also. As many other States came within the fold of Social Forestry in the following years large number of the selected beneficiaries were provided employment in 1981-82 and 1982-83.

(Para 6.4)

7.66 About 90 per cent of the sample beneficiaries reported wage employment on Social Forestry by all to 25 per cent of male family members, whereas wage employment by female family members were reported by 23 per cent of the selected beneficiaries. In four States no female family member worked on Social Forestry.

(Para 6.5)

7.67 Prospects of employment and steady payment of wages at higher rates was reported to be the main benefit out of the public plantations programme by majority of the selected beneficiaries. Seventy six per cent were aware of the prospects of availability of fuelwood, and 45 per cent fodder, in future. About 49 per cent also reported better employment opportunities under the Programme.

(Para 6.7)

7.68 There was practically no change in the sources of fuelwood, fodder and small timber for the selected beneficiaries, as the produce of the trees had not yet matured for harvesting.

(Para 6.8)

7.69 About 40 per cent of the selected beneficiaries reporting use of fuelwood and about 30 per cent of those reporting use of fodder and small timber, faced difficulties in meeting their requirement due to distance of the sources, exploitation by forest guards and shrinkage in area of common pasture/grazing land.

(Para 6.13)

7.70 Sixty three per cent of the selected beneficiaries reported that the plants were looked after properly. However, in West Bengal all the selected beneficiaries were of the opinion that the plants were not properly taken care of. The respondents suggested that for proper plant maintenance chowkidars should be engaged and that there was need for convincing villagers through extension work about usefulness of the plants and involving school children in the plantation Programme.

(Para 6.14)

7.71 The average daily wage rate for work on public plantations, taking all States together, was Rs. 8.59, vis-a-vis the minimum daily wage rate of Rs. 7.70 to Rs. 11.25 fixed by the Central Government. The selected beneficiaries from Bihar, Gujarat, Himachal Pradesh and Orissa received daily wage at the rates higher than the rate fixed under Minimum wages Act, whereas in Andhra Pradesh, Haryana, Tamil Nadu and West Bengal, wages paid were less than the minimum fixed under the Act. The wage rate in no case ought to be less than that fixed under the Minimum Wages Act.

(Para 6.18)

7.72 Fifty eight per cent of the selected beneficiaries were employed on social Forestry work in 1981-82, 80 per cent in 1982-83 and 48 per cent in 1983-84. For 19 per cent of those employed during 1981-82, there was no alternative sources of employment available during the period of their employment on Social Forestry. Similarly, amongst those employed on Social Forestry during 1982-83 and 1983-84, 24 per cent and 20 per cent respectively reported no alternative sources of employment.

(Paras 6.20 & 6.21)

7.73 The Evaluation Study revealed that but for wage employment on Social Forestry, each of the selected beneficiaries who worked on public plantations during each of the years 1981-82, 1982-83, 1983-84 and reported alternative sources of employment, would have remained gainfully employed through alternative employment elsewhere, on an average to the extent of about 60 per cent of the period of their employment under Social Forestry.

(Para 6.22)

7.74 The selected beneficiaries from Himachal Pradesh, Rajasthan and Orissa derived maximum benefit of wage employment through Social Forestry during 1981-82, as otherwise they would have remained unemployed for about 85, 82 and 73 per cent respectively of the total period of their employment on Social Forestry. The selected beneficiaries from Himachal Pradesh also derived maximum benefit of wage employment under Social Forestry, more than 80 per cent, during each of the years 1982-83 and 1983-84.

(Paras 6.23 & 6.24)

7.75 Wage income through Social Forestry for each of the selected beneficiaries who worked on public/panchayat plantations contributed to about 27, 29 and 32 per cent of the total wage income during 1981-82, 1982-83 and 1983-84 respectively. Social Forestry generated maximum wage income for the selected beneficiaries in Haryana in all three years.

(Para 6.27)

#### *Follow-up Actions*

7.76 To sum up, in the States where the Forest Department officials were engaged in the implementation of Social Forestry without any extra staff support, the Programme suffered due to inadequacy of staff. The existing staff of the Forest Department connected with regulatory management of forests do not appear to be an ideal agency for motivating people to Social Forestry. Posting from the regular Forest Department to the Social Forestry Organisation was not generally preferred for obvious reasons. To motivate staff to Social Forestry it is felt necessary to provide extra monetary incentives upto Range level and below. In order to give a thrust to Social Forestry it is also considered essential that separate trained staff are provided at all levels including extension and motivation staff at the grass-root level.

7.77 For successful implementation of the Programme an integrated approach should be adopted at the



district level and below, involving all concerned Departments in formulation and implementation of the Programme. The Programme at the grass-root level should be implemented through block & village level committees with active peoples' participation at all committees with active peoples' participation all levels.

(Action: Department of Forests & DRDA)

7.78 The main objective of the Programme to make available fuelwood, fodder and small timber to the rural poor, either free, or at relatively low price, appeared to have receded to secondary consideration from the adopters' point of view. For the most common reason advanced for preferring particular tree variety, was its commercial suitability. This is also evidenced from the fact that the Eucalyptus was the most commonly grown species by about two-thirds of the selected beneficiaries. Other varieties grown were also local ones and fruits species suitable for commercial purposes. There was practically no change in the sources of availability of fuelwood, fodder and small timber and in the distance the respondents had to cover to procure the same, vis-a-vis the position prevailing before the commencement of the Programme. On the contrary, in a few cases the distance of the sources of fodder and fuelwood was reported to have increased due to shrinkage of area under common pastures.

7.79. Although 92 per cent of the selected beneficiaries had agricultural holding, only 30 per cent raised plantation of farm land, covering on average 0.45 hect. per respondent under Farm Forestry during 1980-84. It was also perceived that about 56 per cent of the total area under Farm Forestry was earlier being, used for raising foodgrains, oilseeds and other crops. This tends to suggest that the respondents were inclined to grow commercially more remunerative tree crops in place of agricultural crops giving lesser returns. This trend needs to be checked.

(Action: Department of Forests & Agriculture)

7.80 Less than 50 per cent of the selected beneficiaries reported survival of plants above 75 per cent. Lower survival percentage was attributed to the scarcity of water, browsing of plants by animals and pests/insects attack. To contain the menace of stray cattle it is felt that unrestricted grazing of animals should be regulated in the village under supervision of the local panchayat.

(Action: Department of Panchayats)

7.81 The major source of supply of seedlings to farmers was the Forest Nurseries. In a few States, the beneficiaries under Farm Forestry were, by and large, big farmers, whereas the Programme was primarily directed towards small, marginal farmers and other weaker sections in the rural areas. To make distribution of plants meaningful, it is suggested that the seed-

lings be supplied free to small, marginal farmers and other weaker sections of the community free upto a certain limit and further supply beyond that limit should be priced.

(Action : Department of Forests)

7.82 About 14 per cent, 20 per cent and 12 per cent of the selected beneficiaries reported about short supply of seedlings, ranging upto 75 per cent of their requirement, during 1981-82, 1982-83 and 1983-84 respectively. The reasons put forth by the selected Nurseries for short supply was late release of funds which affected raising of seedlings in time. It is, therefore, suggested that release of funds for raising seedlings should be well in time.

(Action: Department of Forests, DRDA)

7.83 About 43 per cent of the selected beneficiaries had to travel more than 5 kms. for collecting seedlings from the Forest Nurseries. The existing arrangements for raising and distribution of seedlings were found to be utterly inadequate to support the massive tree plantation programme. The entries in the distribution registers in many cases, left much to be desired. There is urgent need for setting up more nurseries in rural areas and better maintenance of records of distribution of seedlings.

(Action: Department of Forests)

7.84 As for Public Plantation Programme, block plantations were raised in only 9 per cent of the selected villages. It was observed that in some cases the panchayats were not inclined to handover village common land to the Forest Department for raising block plantations, or that they hardly owned any common land. In quite a few States large scale encroachment of village common land was reported to be the bane of block and community plantations programme on major scale. The Panchayats in general did not evince any initiative and what ever block plantations were undertaken it was at the initiative of the Forest Department. Problems connected with identification and release of public/revenue waste land, wherever available for raising block plantations should be sorted out by the district level committee comprising representatives of all concerned Departments.

(Action: Forest Department & DRDA)

7.85 Prospects of employment and steady wages at higher rates were reported to be the major benefits arising out of wage employment on public plantation Programme. However, in four States, wages paid under the Programme were less than the minimum wages fixed under the Act. The wage rate in no case ought to be less than the rates fixed under the Minimum Wages Act.

(Action: Labour Commissioner, Department of Forests and Panchayats)